

**180 Degree Education**  
Presents

West Virginia State Board of Barbers and Cosmetologists  
Continuing Education

**Safety and Sanitation 1: WV210**  
**4 Credit Hours**

Cosmetologists  
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Aestheticians  
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## Course Instructions

To complete your course:

1. Read the course material
2. Mark your quiz question answers on your answer sheet. We guarantee that you will pass the course or you will receive your money back. If you do not pass on the first attempt, you can try again without any additional fees until you pass. Don't worry though; most people pass on their first try with no problem.
3. Go to [www.WV210.com](http://www.WV210.com) to pay for your course and submit your quiz questions. This is the quickest and easiest way to complete your education. You will print your certificate of completion immediately and we will submit your completion to the Board the next business morning.

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**Safety Issues WV210**  
**Quiz Questions**

**LESSON I**  
**HIV/AIDS AND COMMUNICABLE DISEASES**

1. The HIV/AIDS virus may be passed from one person to another when infected blood, semen, or vaginal secretions come in contact with an uninfected person's broken skin or mucous membranes.
  - A. True
  - B. False
  
2. Immunodeficiency means that the disease \_\_\_\_\_.
  - A. weakens the immune system
  - B. thins your blood drastically
  - C. can be easily treated and destroyed
  - D. none of the above
  
3. HIV destroys a certain kind of blood cell (\_\_\_\_\_) which is crucial to the normal function of the human immune system.
  - A. CD4+ T cells
  - B. ZY9 T cells
  - C. CD+ Stem Cells
  - D. None of the Above
  
4. Scientists and medical authorities agree that HIV does survive well outside the body, making the possibility of environmental transmission possible.
  - A. True
  - B. False

**Lesson II**  
**Sanitation and Sterilization**

5. Inadequate sanitation is a major cause of disease worldwide.
  - A. True
  - B. False
  
6. Dirty hands and fingernails are sources of infectious diseases.
  - A. True
  - B. False

7. Antiseptic solutions are stronger than disinfectant solutions.
  - A. True
  - B. False
  
8. “Super Quats” are not safe and do not destroy bacteria.
  - A. True
  - B. False
  
9. Proper disinfectants are the answer to the prevention of the spread of dangerous organisms.
  - A. True
  - B. False
  
10. Disinfectants will work very well even if they are mixed incorrectly.
  - A. True
  - B. False
  
11. Gloves should be worn whenever there is a possibility of contact with bodily fluids.
  - A. True
  - B. False
  
12. Some cosmetic products are flammable or create conditions where fire can occur if there is a spark or open flame.
  - A. True
  - B. False

## LESSON I HIV/AIDS AND COMMUNICABLE DISEASES

### Learning Objectives

In “HIV/AIDS and Communicable Diseases” the student will learn:

1. The statistics behind the epidemic
2. The difference between HIV and AIDS
3. How HIV is transmitted
4. Where HIV/AIDS came from
5. A thorough understanding of HIV/AIDS
6. Effective practices for HIV/AIDS prevention
7. How the ADA affects HIV/AIDS in the workplace
8. The appropriate behavior when in contact with HIV/AIDS infected people
9. The symptoms of additional diseases

### Unit 1 Statistics <sup>(1)</sup>

#### Worldwide

- In 2007 33.2 million people were estimated to be living with HIV, 2.5 million people became newly infected and 2.1 million people died of AIDS.

#### United States

- In recent years, new treatments have slowed the progression from HIV to AIDS and from AIDS to death in people infected with HIV in the United States. As a result, the U.S. rates of new AIDS cases and AIDS deaths have dropped dramatically. The cumulative estimated number of cases of AIDS through 2006 in the United States and dependent areas was 1,014,797. Increasing proportions of new infections have been among women, certain ethnic minority populations, and people infected through heterosexual contact. (Source: Centers for Disease Control, 2006)

### Unit 2 The Difference Between HIV and AIDS <sup>(1)</sup>

**HIV** stands for the **Human Immunodeficiency Virus**. Let's take a closer look at these words and what they mean:

"**H**" is for **Human**, meaning that only humans get this virus. That's another way of saying that the virus is "species specific." So you don't have to worry about ever getting infected from a pet or a mosquito.

**"I"** is for **Immunodeficiency**, meaning that this virus causes your immune system to have some serious problems. The immune system is what fights off diseases and infections. When your immune system starts to have problems, it makes it easier for you to get sick and harder for you to get well.

**"V"** is for **Virus**, which refers to the specific type of germ or antigen. Other types of germs are bacteria, fungi, and parasites. Fortunately, all of those types of germs can be killed with specific medications. Unfortunately, viruses can't be killed. You can't take a medicine like an antibiotic and get rid of HIV. Viruses stay with us forever. Sometimes we are able to create conditions where they don't cause us any problems, and that is where a strong and healthy immune system comes in handy.

HIV-1 is the type of HIV that is most commonly found in the United States and Canada. Several subtypes (sometimes referred to as strains) or variants of HIV-1 have been identified, and again, only one, HIV-1 subtype B is common in the United States and Canada.

HIV-2 is another type of HIV. HIV-2 is an uncommon virus in the United States and Canada.

It is widely accepted in the medical and scientific research community that HIV infection is linked to immune system malfunction and ultimately results in the condition known as AIDS.

The only way a person can know if he or she has been infected with HIV is to have a specific test. In addition to standard blood tests, there are approved HIV tests which use cells from the mouth and tests which use cells in urine. There are also test kits which can be used at home to collect blood samples. Check with your [state's HIV hotline](#) to get more information about the tests available in your area.

**AIDS** stands for **Acquired Immune Deficiency Syndrome**. It is the result of a weakened immune system caused by HIV infection. AIDS is diagnosed when a person tests positive for HIV and also has one or more of the "opportunistic infections" of AIDS (there are 27) and/or has a laboratory marker test of 200 or fewer T-cells. AIDS should be diagnosed by a physician. The opportunistic infections associated with AIDS are called "AIDS-defining illnesses" and should also be diagnosed by a physician.

Both HIV infection and AIDS are considered to be chronic illnesses managed with both pharmaceutical (pharmacy drugs) therapies and complementary (alternative) therapies. In most cases, people can live for many years with HIV infection and with AIDS. It is usually impossible to know just how long a person will live with AIDS. Today's HIV therapies are extending the lives of Persons Living With AIDS as well as helping to improve their quality of life.

### **Unit 3** **How is HIV Transmitted? <sup>(1)</sup>**

HIV is transmitted by five body fluids: Blood, Semen, Pre-Ejaculatory Fluid, Vaginal Secretions, and Nursing Mother's Breast Milk. It is important to note that transmission can only occur by having direct contact with one or more of these fluids in such a way that causes them to enter directly into your bloodstream.

HIV is only transmitted by behaviors which allow such direct contact with these fluids. Specifically, by sharing hypodermic needles to shoot drugs (this includes skin popping, and the sharing of syringes, cookers and drug use "works"); receiving infected blood, plasma, or body part; and sexual intercourse or other sexual activities.

Anytime you have direct contact with these risky fluids, you may have been "exposed" to HIV. Should the virus find a "portal of entry" into your blood stream in sufficient amounts, you may be "infected" with HIV.

## **Unit 4**

### **QUESTIONS AND ANSWERS ON HIV/AIDS <sup>(2)</sup>**

#### **What is HIV?**

HIV (human immunodeficiency virus) is the virus that causes AIDS. This virus may be passed from one person to another when infected blood, semen, or vaginal secretions come in contact with an uninfected person's broken skin or mucous membranes\*. In addition, infected pregnant women can pass HIV to their baby during pregnancy or delivery, as well as through breast-feeding. People with HIV have what is called HIV infection. Some of these people will develop AIDS as a result of their HIV infection.

- A mucous membrane is wet, thin tissue found in certain openings to the human body. These can include the mouth, eyes, nose, vagina, rectum, and opening of the penis.

#### **Where did HIV come from?**

The earliest known case of HIV-1 in a human was from a blood sample collected in 1959 from a man in Kinshasa, Democratic Republic of Congo. (How he became infected is not known.) Genetic analysis of this blood sample suggested that HIV-1 may have stemmed from a single virus in the late 1940s or early 1950s.

We know that the virus has existed in the United States since at least the mid- to late 1970s. From 1979-1981 rare types of pneumonia, cancer, and other illnesses were being reported by doctors in Los Angeles and New York among a number of male patients who had sex with other men. These were conditions not usually found in people with healthy immune systems.

In 1982 public health officials began to use the term "acquired immunodeficiency syndrome," or AIDS, to describe the occurrences of opportunistic infections, Kaposi's sarcoma (a kind of cancer), and *Pneumocystis carinii* pneumonia in previously healthy people. Formal tracking (surveillance) of AIDS cases began that year in the United States.

In 1983, scientists discovered the virus that causes AIDS. The virus was at first named HTLV-III/LAV (human T-cell lymphotropic virus-type III/lymphadenopathy- associated virus) by an international scientific committee. This name was later changed to HIV (human immunodeficiency virus).

For many years scientists theorized as to the origins of HIV and how it appeared in the human population, most believing that HIV originated in other primates. Then in 1999, an international team of researchers reported that they had discovered the origins of HIV-1, the predominant strain of HIV in the developed world. A subspecies of chimpanzees native to west equatorial Africa had been identified as the original source of the virus. The researchers believe that HIV-1 was introduced into the human population when hunters became exposed to infected blood.

For more information on this discovery, visit the NIH National Institute of Allergy and Infectious Diseases press release at <http://www3.niaid.nih.gov/news/newsreleases/1999/hivorigin.htm>.

### **What causes AIDS?**

AIDS is caused by infection with a virus called human immunodeficiency virus (HIV). This virus is passed from one person to another through blood-to-blood and sexual contact. In addition, infected pregnant women can pass HIV to their babies during pregnancy or delivery, as well as through breast feeding. People with HIV have what is called HIV infection. Some of these people will develop AIDS as a result of their HIV infection.

### **How Does HIV cause AIDS?**

HIV destroys a certain kind of blood cell (CD4+ T cells) which is crucial to the normal function of the human immune system. In fact, loss of these cells in people with HIV is an extremely powerful predictor of the development of AIDS. Studies of thousands of people have revealed that most people infected with HIV carry the virus for years before enough damage is done to the immune system for AIDS to develop. However, sensitive tests have shown a strong connection between the amount of HIV in the blood and the decline in CD4+ T cells and the development of AIDS. Reducing the amount of virus in the body with anti-retroviral therapies can dramatically slow the destruction of a person's immune system.

For more information visit the NIH National Institute for Allergies and Infectious Diseases Fact sheet "[The Evidence That HIV Causes AIDS](#)".

### **How long does it take for HIV to cause AIDS?**

Prior to 1996, scientists estimated that about half the people with HIV would develop AIDS within 10 years after becoming infected. This time varied greatly from person to person and depended on many factors, including a person's health status and their health-related behaviors.

Since 1996, the introduction of powerful anti-retroviral therapies has dramatically changed the progression time between HIV infection and the development of AIDS. There are also other medical treatments that can prevent or cure some of the illnesses associated with AIDS, though the treatments do not cure AIDS itself. Because of these advances in drug therapies and other medical treatments, estimates of how many people will develop AIDS and how soon are being recalculated, revised, or are currently under study.

As with other diseases, early detection of infection allows for more options for treatment and preventative health care.

### **Why do some people make statements that HIV does not cause AIDS?**

The epidemic of HIV and AIDS has attracted much attention both within and outside the medical and scientific communities. Much of this attention comes from the many social issues related to this disease such as sexuality, drug use, and poverty. Although the scientific evidence is overwhelming and compelling that HIV is the cause of AIDS, the disease process is still not completely understood. This incomplete understanding has led some persons to make statements that AIDS is not caused by an infectious agent or is caused by a virus that is not HIV. This is not only misleading, but may have dangerous consequences. Before the discovery of HIV, evidence from epidemiologic studies involving tracing of patients' sex partners and cases occurring in persons receiving transfusions of blood or blood clotting products had clearly indicated that the underlying cause of the condition was an infectious agent. Infection with HIV has been the sole common factor shared by AIDS cases throughout the world among men who have sex with men, transfusion recipients, persons with hemophilia, sex partners of infected persons, children born to infected women, and occupationally exposed health care workers.

The conclusion after more than 20 years of scientific research is that people, if exposed to HIV through sexual contact or injecting drug use for example, may become infected with HIV. If they become infected, most will eventually develop AIDS.

For more information, visit the NIH National Institute for Allergies and Infectious Diseases Fact sheet "[The Evidence That HIV Causes AIDS](#)".

### **How well does HIV survive outside the body?**

Scientists and medical authorities agree that HIV does not survive well outside the body, making the possibility of environmental transmission remote. HIV is found in varying concentrations or amounts in blood, semen, vaginal fluid, breast milk, saliva, and tears. To obtain data on the survival of HIV, laboratory studies have required the use of artificially high concentrations of laboratory-grown virus. Although these unnatural concentrations of HIV can be kept alive for days or even weeks under precisely controlled and limited laboratory conditions, CDC studies have shown that drying of even these high concentrations of HIV reduces the amount of infectious virus by 90 to 99 percent within several hours. Since the HIV concentrations used in laboratory studies are much higher than those actually found in blood or other specimens, drying of HIV-infected human blood or other body fluids reduces the theoretical risk of environmental transmission to that which has been observed – essentially zero. Incorrect interpretations of conclusions drawn from laboratory studies have in some instances caused unnecessary alarm.

Results from laboratory studies should not be used to assess specific personal risk of infection because (1) the amount of virus studied is not found in human specimens or elsewhere in nature, and (2) no one has been identified as infected with HIV due to contact with an environmental surface. Additionally, HIV is unable to

reproduce outside its living host (unlike many bacteria or fungi, which may do so under suitable conditions), except under laboratory conditions; therefore, it does not spread or maintain infectiousness outside its host.

### **How can I tell if I am infected with HIV?**

#### **What are the symptoms?**

The only way to know if you are infected is to be tested for HIV infection. You cannot rely on symptoms to know whether or not you are infected. Many people who are infected with HIV do not have any symptoms at all for 10 years or more.

The following **may be** warning signs of advanced HIV infection:

- rapid weight loss
- dry cough
- recurring fever or profuse night sweats
- profound and unexplained fatigue
- swollen lymph glands in the armpits, groin, or neck
- diarrhea that lasts for more than a week
- white spots or unusual blemishes on the tongue, in the mouth, or in the throat
- pneumonia
- red, brown, pink, or purplish blotches on or under the skin or inside the mouth, nose, or eyelids
- memory loss, depression, and other neurological disorders

However, no one should assume they are infected if they have any of these symptoms. Each of these symptoms can be related to other illnesses. Again, **the only way to determine whether you are infected is to be tested for HIV infection.** For information on where to find an HIV testing site, visit the National HIV Testing Resources Web site at <http://www.hivtest.org> or call **CDC-INFO** 24 Hours/Day at 1-800-CDC-INFO (232-4636), 1-888-232-6348 (TTY), in English, en Español. These resources are confidential. You can also ask your health care provider to give you an HIV test.

You also cannot rely on symptoms to establish that a person has AIDS. **The symptoms of AIDS are similar to the symptoms of many other illnesses.** AIDS is a medical diagnosis made by a doctor based on specific criteria established by the CDC. For more information refer to the Morbidity and Mortality Weekly Report “1993 Revised Classification System for HIV Infection and Expanded Surveillance Case Definition for AIDS Among Adolescents and Adults” at <http://www.cdc.gov/mmwr/preview/mmwrhtml/00018871.htm>.

If you would like more information or have personal concerns, call **CDC- INFO** 24 Hours/Day at 1-800-CDC-INFO (232-4636), 1-888-232-6348 (TTY), in English, en Español.

## Unit 5 Protecting Yourself from HIV/AIDS in the Workplace

A well constructed HIV/AIDS prevention program in your workplace is important to keeping everyone in your salon healthy. The CDC's Business/Labor Responds to AIDS program is a resource that can help you ([www.brta-lrta.org](http://www.brta-lrta.org)). There are five components that make up a complete and thorough program.

1. **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, non-discrimination, confidentiality, hiring and other employment practices, universal precautions, co-worker anxiety, insurance and other healthcare issues, and implementation of workplace education efforts. This can be a specific HIV policy or part of a pre-existing catastrophic illness policy.
2. **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.
3. **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.
4. **HIV/AIDS education for employees'/workers' families** through the employee/worker or directly from the employer to the family.
5. **HIV-related community service, volunteerism, and philanthropy**, to encourage employees, managers, and labor leaders to engage in individual support of HIV/AIDS initiatives in their communities and to encourage corporate and labor union philanthropic support of HIV/AIDS initiatives.

A well developed HIV/AIDS policy should:

1. Form the foundation for the entire HIV/AIDS program
2. Be the standard for communication about HIV/AIDS
3. Set the standard of behavior expected of all staff/workers
4. Let all staff/workers know where to go for assistance
5. Instruct supervisors on how to address HIV/AIDS
6. Establish compliance with all Federal, state, and local laws

Key laws that will affect your policy include:

- The Federal Vocational Rehabilitation Act of 1978, which prohibits employment discrimination against an "otherwise qualified individual with handicaps."
- The Americans with Disabilities Act of 1990 (ADA), which prohibits discrimination in employment on the basis of a person's disability, and which requires employers to make "reasonable accommodations" for qualified individuals with disabilities.
- The Family Medical Leave Act of 1993 (FMLA), which applies to companies with 50 or more staff/workers within a 75-mile geographic radius. Eligible staff/workers may take leave for serious health conditions or to provide care for an immediate family member with a serious health condition—including HIV/AIDS.
- The Consolidated Omnibus Budget Reconciliation Act of 1986 (COBRA), which allows staff/workers to continue their health insurance coverage at their own expense for a period of time after their employment ends.
- The Health Insurance Portability and Accountability Act of 1996 (HIPAA), which attempts to address some of the barriers to healthcare facing people with HIV as well as other vulnerable populations.

## **Unit 6**

### **HIV/AIDS in the Workplace and the Americans with Disabilities Act (ADA) <sup>3</sup>**

“Expert Perspectives Dealing with HIV/AIDS in the Workplace”

Peter J. Petesch

*August 2003*

This month, I attended another funeral of a person who passed away from AIDS-related complications. This time, a co-worker at my firm lost her twin brother a week before their 40th birthdays. Although no one from my office passed away from this illness, my workplace was deeply affected. The funeral took me back to another August funeral, in 1987, after the death of my best friend from AIDS-related complications. As with a growing many persons, HIV/AIDS is a personal issue, and has been for me since the 1980s. As a business person and an employment attorney aiding employers, it remains a workplace and legal issue as well. Although education, promising treatments, and the passage of time have helped minimize the panic of the 1980s, HIV/AIDS remains a very serious issue for businesses and the economy at large, undeserving of this new era of complacency. With the number of new AIDS cases on the rise again, as reported just this summer, and with new public health initiatives encouraging more people to know their status, more and more employers will be faced with workers and members of workers' families confronting HIV/AIDS.

Despite the advent of promising treatments, AIDS remains among the top killers of Americans between the ages of twenty-five and forty-four, the same age group that comprises over half the workforce. The U.S. Centers for Disease Control and Prevention (CDC) estimates that nearly one million people in the United States are living with HIV. While death rates decline, HIV-infection rates are once again increasing, with

approximately 40,000 new infections in the U.S. each year. Every large business has been or will be affected, and most small businesses will follow suit. These infections diversify into all segments of the population. Better medical therapies prolonging the survival of HIV patients (and increasing their productive lives in some cases) also force greater emphasis on day-to-day management of employees with HIV/AIDS and their co-workers. The complexity of managing HIV stems from the evolving nature of how HIV affects the infected individual, as well as the unpredictable manner in which it affects others in the organization. *See* Petesch, P., "HIV/AIDS: Still in Business," *Mosaics* (SHRM November 2001); "Firms Juggle Stigma, Needs of More Workers with HIV," *USA Today*, September 7, 2000, 1-B. Employers also confront a new phenomenon from improved AIDS treatments: employees returning to work (either to their former employer or a new employer) from long-term disability status. Medical advances underscore the challenge to address both ongoing accommodations of employees and acceptance of those employees by the work-force. *See* Petesch, P., "The ADA, HIV and Risk Management Strategies," *Legal Report* (SHRM, Summer 1998); Greene, J., "Employers Learn to Live With AIDS," *HR Magazine* (SHRM February 1998). From a legal perspective alone, organizations must continue to take proactive measures in the context of their general non-discrimination and diversity programs to address this increasingly pervasive issue, and avoid the dangerous attitude of complacency.

## **The ADA and HIV/AIDS**

Americans with Disabilities Act (ADA) cases involving HIV/AIDS continue to be litigated and employers encounter daily personnel decisions fraught with legal repercussions in managing employees with HIV/AIDS. Cases implicate the three main pillars of the ADA: non-discrimination, reasonable accommodations, and confidentiality of medical information. For example, in October 2001, a Cleveland, Ohio, jury awarded \$5 million under state law to a former manager of a fast food restaurant who was stripped of his management duties after disclosing his medical condition.

Reassigning, accommodating, reducing or restructuring benefits, and dealing with other employees' fears and concerns raise legal and moral issues that challenge businesses affected by, and employees infected with, HIV/AIDS. The U.S. Supreme Court's ruling in *Bragdon v. Abbott* concluded that one individual's asymptomatic HIV is a disability under the ADA because the individual was substantially limited in the major life activity of reproduction. Yet, in 2002, one court of appeals found that an individual with HIV did not have a "disability" as defined under the ADA because he did not show that his HIV status substantially limited his major life activity of reproduction, particularly because he and his spouse had decided not to have any more children. It is not clear from this case whether the individual presented much argument or evidence to show a substantial limitation in any other major life activities, or whether this case (*Blanks v. Southwestern Bell Corp.*) truly supports the proposition that an individual who decides, for the time being, not to have children cannot claim a "substantial limitation" in the major life activity of reproduction.

The lesson from these cases is that most persons with HIV will likely maintain protection under the ADA, and that employers who do not effectively address the issue risk liability and disruption. For example, in another recent case involving an HIV-positive plaintiff, an appeals court confirmed that the ADA permits an action for disability-based harassment under a hostile environment theory. *See Flowers v. Southern Regional Physician Svs., Inc.* Recent news accounts of a small grocery store terminating a bagger with AIDS, supposedly "for his own good," rekindles the notion that even now, many workplaces still do not "get it."

## **Threat of Injury to Self or Others as a Defense?**

The ADA recognizes that an employer may defend a charge of disability discrimination by proving that the hiring or retention of a disabled employee poses a substantial risk of serious injury to others. This seldom works in HIV cases. Employers should recognize that suspending, isolating or discharging an employee because the employee's HIV or AIDS infection poses a significant risk to the employee or coworkers is a difficult standard to meet. Courts are reluctant to find the risk of co-worker infection to be a legitimate, nondiscriminatory reason for discharge unless the employer can demonstrate from objective evidence that there is a clear risk that HIV or AIDS would be transmitted by one or more of the limited medically proven methods of transmission.

Cases allowing exclusions of employees with HIV/AIDS on safety-related grounds have generally been limited to jobs involving invasive surgery or blood-to-blood contact. *See, e.g., Waddell v. Valley Forge Dental Associates, Inc.* (dental hygienist with HIV was risk to safety due to on-the-job blood to blood contact from sticks or cuts during treatment; risk could not be eliminated by reasonable accommodation); *Estate of Mauro by & Through Mauro v. Borgess Med. Ctr.* (surgical technician performing exposure-prone procedures). But see *Holiday v. City of Chattanooga* (upholding disability discrimination claim of police applicant with HIV where there was evidence that offer was withdrawn because of fears that plaintiff would transmit HIV on the job); *Doe v. Attorney General of U.S.* (medical facility director who was suspected of having AIDS was otherwise qualified under Section 504 of the Rehabilitation Act to perform routine physical exams of FBI agents, where FBI conceded that it was told that there was no risk to agents because infection control procedures were being followed). These decisions illustrate that the employer must show that the employee's condition posed more than an "elevated" risk to other employees or to customers; rather, a "reasonable probability of substantial harm" supported by medical evidence is required. As with any condition treated by medication, however, employers should also be mindful of side effects of medication that may cause an objective threat to safety. Any decision to exclude an employee must still be based on objective medical evidence. In addition, as with medical information on the person's condition itself, information on individual's medication must be kept confidential.

## **Employee/Customer Fears Are Not a Defense**

Other employees' (and customers') attitudes and concerns compound the problem of managing HIV/AIDS. Generally, "customer preference" is not a valid defense to denial of a job under any employment discrimination laws. *See Diaz v. Pan American World Airways.*

## **Reasonable Accommodations**

Persons with disabilities recognized under the ADA are also entitled to "reasonable accommodations." It is generally incumbent on the person with the disability to come forward and request an accommodation (especially in the case of an "invisible" disability such as HIV/AIDS) and, if requested, to come forward with the medical information needed to corroborate the existence of a "disability" and functional limitations necessitating an accommodation.

A reasonable accommodation gives an otherwise qualified person with a disability an equal opportunity to work, and perform the essential functions of their job. Accommodations are not tantamount to paternalism or

abandoning performance expectations to which other employees are held. Refusing to make or attempt a reasonable accommodation for an employee with a disability exposes the employer to ADA liability and, sometimes, increased damages. The accommodation concept is flexible and elusive, without cookie-cutter solutions. The evolving nature of an individual's disability, job duties, and functional limitations requires ongoing evaluation, ideally in consultation with the disabled employee, of what accommodations are effective, needed, and reasonable. Some recent cases remind employers that if an accommodation is not working, additional dialogue, geared toward developing different accommodations, may be needed. Changes in technology and the organization's ability to implement accommodations add to the number of "moving targets" requiring constant evaluation. In most cases, accommodations are relatively inexpensive, and may involve adjusting schedules, relocating certain workstations, granting reasonable leaves of absence, possible reassignments, or providing needed equipment. The difficulty with accommodations, for employers, is drawing an appropriate line between accommodation and paternalism, deciding when, if ever, an accommodation becomes unreasonable or results in an "undue hardship," and managing the attitudes of others curious about or even resentful of the adjustments made for a co-worker.

### **Protecting the Employee's Privacy**

The ADA also mandates that employees' medical information be kept confidential. When an employer employs an individual with HIV, the employer must take steps to protect the confidentiality of the person or the employer may be sued for ADA violations, defamation or invasion of privacy. *See Doe v. United States Postal Service* (employer revealing employee's HIV-positive status to co-workers in aftermath of medical leave request gives rise to Privacy Act and Rehabilitation Act claims); *Doe v. Southeastern Pennsylvania Transportation Authority* (awarding damages of \$125,000 to a worker who claimed his privacy was violated when a top manager learned of his HIV infection during a review of prescription drug utilization reports and revealed the information to others at the agency).

### **National Labor Relations Act (NLRA)**

Employees acting in "concert" with each other in refusing to work may argue that they have a right to refuse to work with a person with HIV. The NLRA protects the right of employees to engage in "concerted" activity for mutual aid and protection. This protection extends to work stoppages in protest over terms and conditions of employment. *See Colorado Forge Corp.* (employees complained that workplace was "too hot, too smoky, too dangerous"), *decision supplemented by Colorado Forge Corp.*, 285 N.L.R.B. No. 63 (1987). However, a refusal to work based on imminent danger to health and safety must be grounded in a good faith belief and be objectively reasonable. The NLRA protects protesting an unsafe working condition, but only if the employees have a good faith, reasonably held belief that an unsafe condition exists. *See, e.g., Daniel Constr. Co.; Johnson-Stewart-Johnson Mining Co.* Even if uninfected employees do not assert any legal claims, the practical consequence of a group of fearful and discontented employees, uneasy with working with a colleague with HIV, provides temptation to break the law and isolate the perceived "problem" – the infected employee. This situation can be avoided through workplace education.

This discussion, unfortunately, only touches the tip of the iceberg in understanding the nuances of the ADA in general and as it applies specifically to HIV/AIDS. The sometimes-amorphous obligations of the ADA, coupled

with the elusive nature of HIV and its ever-changing effect (and side effects of treatments) on employees' functional limitations challenge employers. Even though many assume that "we know better now, and we can handle it when it comes up," preparedness, in the form of policies and workplace education at both management and organization-wide levels, is as important today as it was in the early stages of the ongoing epidemic.

## Unit 7 HIV/AIDS Stigma <sup>4</sup>

### HIV/AIDS Stigma in the Workplace Jesse Milan, Jr., JD

*"Did you hear she went for an HIV test?"*

*"Get tested for HIV? Not me! I don't want people I work with thinking I have HIV!"*

Virtually every working person in America and the world today knows of HIV/AIDS. Images of death and dying permeated the media in the 1980s, legal and policy developments on HIV/AIDS received wide acclaim in the 1990s, and President Bush's State of the Union Address in 2003 announcing \$15 billion in U.S. aid to Africa has helped bring public attention to the growing global epidemic. Most American workers can name at least one HIV-positive person, even if it is only Magic Johnson. Yet more than 20 years into the HIV/AIDS epidemic and with 850,000 to 950,000 Americans living with HIV/AIDS <sup>5</sup>, the American workplace is still remarkably quiet about HIV/AIDS. Stigma is a main reason.

HIV/AIDS stigma is pervasive and persistent. Its ways of enduring are not well understood, though there is a growing body of evidence documenting the stigma's tragic impact on the public's health. Less understood is the role the workplace plays in perpetuating the stigma long associated with HIV/AIDS. Yet every day, more people with HIV/AIDS live longer and healthier lives as a result of advanced treatments. Every day, more people want to understand and acknowledge their personal connections to friends and family living with HIV/AIDS. The increasing presence of all these factors in the workforce demands that employers and employees alike understand and address HIV/AIDS stigma in the workplace.

### The ADA and HIV/AIDS

*HIV/AIDS stigma refers to unfavorable attitudes, beliefs, and policies directed toward people perceived to have HIV/AIDS, as well as their loved ones, associates, social groups, and communities.*<sup>3</sup>

This definition is consistent with the understanding of social stigma advanced by anthropologist Erving Goffman.<sup>9</sup> Negative opinions, attitudes, and beliefs about those infected with HIV/AIDS, as well as those associated with people with HIV/AIDS, are deeply rooted in moral assessments, blame about the ways HIV/AIDS is transmitted, and continuing bias against the people the disease has most affected. These prejudices concern many different types of people found in the modern workplace. Population groups that have been especially associated with HIV/AIDS include the following:

- Racial minorities

- Current and former substance abusers
- Men who have sex with men
- Women with multiple sexual partners
- Sexually active youth
- Former prisoners

Some of these categories are obvious in the workplace, such as race and gender. Some are not discussed or are suppressed, such as sexuality and substance abuse. Yet all of these groups have been unfavorably marked as a source or cause of HIV/AIDS. As these groups remain publicly associated with the epidemic, any individual who falls into any of these categories, who is suspected of being in one of them, or who associates with people in these categories is subject to being stigmatized—whether or not he or she actually has HIV/AIDS. These prejudices are often exacerbated by continuing fears and misunderstandings among employers and employees about the HIV/AIDS virus, contagion, illness, and death,<sup>9</sup> as well as by continuing public opinion that people with HIV/AIDS “have gotten what they deserve.”<sup>10</sup> Whether separately or jointly, these biases and fears define HIV/AIDS stigma.

### **How is HIV/AIDS Stigma Expressed in the Workplace?**

Stigma is manifested in many forms. Some forms may be very subtle; some forms shockingly overt. All forms of stigma may be illegal, particularly when they create discriminatory workplace environments or result in discriminatory actions, such as firing or rejection.

Any manifestation of stigma can be painful, regardless of how it is communicated or perceived. Stigma can take the form of blame, rejection, exclusion, repulsion, ostracism and degradation.<sup>11,12</sup> Scribbling “AIDS Carrier” on an employee’s locker sends a clear stigmatizing message, as does physical violence against those suspected of being infected. Gossiping in the employee lunchroom about someone who has sought an HIV/AIDS test is stigmatizing. Not inviting a person known to have had an HIV/AIDS test to join you for a coffee break, fearing changing clothes next to that person, or secretly speculating about who she or he may have infected are also forms of workplace stigma. So, too, is the silence of labor leaders and management who know of stigmatizing acts or attitudes in their workplace.

People living with HIV/AIDS, as well as people close to them, are continually aware of and concerned about stigma, whether it is reported or not. Productive people living with HIV/AIDS often fear being perceived by coworkers as getting “special treatment” when they are excused to attend needed regular medical appointments. Employees raising grandchildren orphaned by AIDS are fearful of sharing with colleagues how their son or daughter died. Even Magic Johnson was concerned about the stigmatizing reactions of his teammates. For employees suffering under the pervasive cloud of HIV/AIDS stigma, these kinds of fears and perceptions are real.

The absence of positive approaches to HIV/AIDS also promotes stigma. Not having a policy prohibiting discrimination based on HIV/AIDS sends the wrong message that HIV/AIDS stigma is acceptable in the workplace. Employee education and wellness programs that do not discuss HIV/AIDS, or that fail to encourage employees to know their personal HIV/AIDS status, implicitly suggest that having or knowing about

HIV/AIDS is bad. By not affirmatively addressing or supporting educational programs and healthcare initiatives concerning HIV/AIDS, workplaces allow stigma to flourish.

### **Is HIV/AIDS Stigma the Same as Discrimination?**

The two-year World AIDS theme for 2003 and 2004 is “Stigma and Discrimination.” The theme was chosen for two years to underscore how pervasive these issues are. The two subjects were chosen together because they have a distinct and yet conjoined impact on the HIV/AIDS epidemic.<sup>13</sup>

While stigma includes the attitudes and beliefs of “devaluing, discounting, and discrediting,”<sup>14</sup> for people related to HIV/AIDS as described above, discrimination often follows stigma and results in “unfair or unjust treatment of an individual based on his or her real or perceived HIV/AIDS status.”<sup>15</sup> These unfair and illegal workplace actions can include inappropriate firing, loss of insurance, wrongful transfers, and denials of promotions, among others. However, stigma can also create an atmosphere that implies that qualified people with HIV/AIDS are not welcome in the workplace or will not be treated fairly. Such atmospheres are equally discriminatory when they perpetuate beliefs or perceptions that qualified people of different sexes, sexual orientations racial, ethnic, or religious backgrounds, or ages are not welcome in the workplace.

### **What is the Impact of Workplace HIV/AIDS Stigma?**

Independently and together, denial, hopelessness, and shame—all stemming from HIV/AIDS stigma—are powerful social and emotional obstacles that discourage people from knowing their status, from seeking treatment and care, and from protecting themselves and others against infection.<sup>16,17</sup> The fear of losing one’s job, or the fear of being treated unfairly by one’s employer, supervisor, or shop steward are reinforced easily by stigma, negative attitudes, and lack of workplace policies. These fears can be as strong as the fears of being rejected by one’s own family, spouse, or friends. Such stigma-related fears can generate intense feelings of shame, hopelessness, and denial. That combination can be life threatening for people who do not know, who should know, or who want to know their HIV/AIDS status. And it is especially life threatening to those who do know their status, but who are afraid that seeking medical care may result in employer misperceptions of excessive absenteeism, illness, or loss of productivity.

The undeniable results of stigma-induced denial, shame, and hopelessness are the mounting numbers of new HIV infections and AIDS deaths in America and around the world. The Centers for Disease Control and Prevention (CDC) estimates that approximately one-quarter of the 850,000 to 950,000 Americans with HIV/AIDS do not know their HIV/AIDS status<sup>14</sup> and that as many as one-half of all infected Americans are not accessing treatment and care.<sup>15</sup> The CDC also estimates that two-thirds of the 40,000 new infections occurring every year in the United States are due to transmissions from people who do not know their HIV/AIDS status. In addition, five million new infections occur each year around the world.<sup>21</sup> Not surprisingly, the people who wait the longest to know their HIV/AIDS status and to start treatment develop AIDS-defining illnesses the fastest.<sup>22</sup> New infections and delays in seeking treatment are devastating impacts of HIV/AIDS stigma on the public’s health.

## **How Can the Workplace Stop HIV/AIDS Stigma?**

Although businesses and labor unions are not responsible for the attitudes and beliefs of their employees and members, they are responsible for ensuring that the workplace is a fair and effective environment that fosters productivity and creativity. Workplace policies and programs that address HIV/AIDS can reduce the stigma of the disease and create positive environments where people living with, or affected by, HIV/AIDS can be productive, contributing members of the workforce and their communities.

Policies prohibiting discrimination based on HIV/AIDS send clear messages that a) unfair treatment must not be instigated in the workplace and b) unfair treatment will not be tolerated in the workplace. All stigmatizing and derogatory statements and actions are covered by nondiscrimination workplace policies. Creating, disseminating, and posting such policies creates a baseline expectation of the kind of attitude about HIV/AIDS that is acceptable in the workplace. However, policies will have no effect if management and labor leaders do not demonstrate through their own words and actions their attitudes about workplace HIV/AIDS stigma. They must be given the tools, resources, training and support necessary to respond appropriately to any evidence of workplace HIV/AIDS stigma. They should also be charged to model appropriate workplace attitudes and behaviors about HIV/AIDS.

Policies must go hand-in-hand with programs. Managers and labor leaders are people, too. Like their employees and members, they may harbor their own stigmatizing perceptions, misconceptions, or opinions about HIV/AIDS and the people affected by it. These can be overcome by training.<sup>23</sup> Learning how the virus works and how individuals of all backgrounds and ages can be at risk is eye-opening and potentially life-changing information. Many managers, labor leaders, and employees may never have had the opportunity to attend a basic HIV/AIDS education program, especially if they left or finished school before such programs began. Training about HIV/AIDS throughout the workforce should follow management training, be offered to every employee, and be repeated periodically for all new employees.

Ongoing workforce HIV/AIDS training programs for managers and all levels of employees loudly proclaim that HIV/AIDS stigma is not welcome in the workplace. When trainings are enhanced by additional workplace programs, such as: HIV awareness posters; wellness programs; HIV counseling, testing and referral information; prevention information; and AIDS charity initiatives, everyone in that workforce will know they work in an environment that is supportive and free of HIV/AIDS stigma.

HIV/AIDS policies and programs are not difficult or costly. Federal resources, such as CDC's Business and Labor Respond to AIDS programs offer free resources, technical assistance, referrals, and advice on how to incorporate HIV/AIDS into workplace employee programs and nondiscrimination policies. Contact CDC today at 1-877-242-9760, or at [www.hivatwork.org](http://www.hivatwork.org). Your local health department can also suggest free resources and local organizations skilled at providing program and policy assistance.

## **Appropriate Attitudes Toward HIV/AIDS Infected People? <sup>24</sup> What If a Someone I Know or Meet Has HIV Infection or AIDS?**

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

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

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.

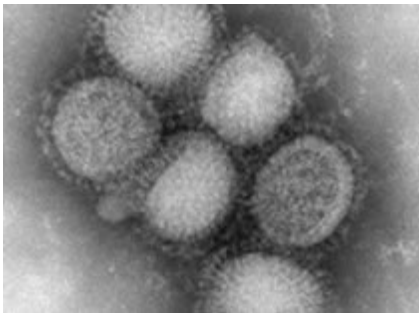
Let the person with HIV infection or AIDS decide whom to tell about their situation. Do not spread rumors or gossip about someone with HIV infection or AIDS.

## Unit 8 Other Diseases <sup>25</sup>

### *Novel H1N1 Flu*

#### **What is novel H1N1 (swine flu)?**

Novel H1N1 (referred to as “swine flu” early on) is a new influenza virus causing illness in people. This new virus was first detected in people in the United States in April 2009. This virus is spreading from person-to-person worldwide, probably in much the same way that regular seasonal influenza viruses spread. On June 11, 2009, the [World Health Organization](#) (WHO) signaled that a pandemic of novel H1N1 flu was underway.



#### **Why is novel H1N1 virus sometimes called “swine flu”?**

This virus was originally referred to as “swine flu” because laboratory testing showed that many of the genes in this new virus were very similar to influenza viruses that normally occur in pigs (swine) in North America. But further study has shown that this new virus is very different from what normally circulates in North American pigs. It has two genes from flu viruses that normally circulate in pigs in Europe and Asia and bird (avian) genes and human genes. Scientists call this a “quadruple reassortant” virus.

### **Novel H1N1 Flu in Humans**

#### **Are there human infections with novel H1N1 virus in the U.S.?**

Yes. Human infections with the new H1N1 virus are ongoing in the United States. Most people who have become ill with this new virus have recovered without requiring medical treatment. CDC routinely works with states to collect, compile and analyze information about influenza, and has done the same for the new H1N1 virus since the beginning of the outbreak. This information is presented in a weekly report, called [FluView](http://cdc.gov/flu/weekly/) (<http://cdc.gov/flu/weekly/>).

#### **Is novel H1N1 virus contagious?**

CDC has determined that novel H1N1 virus is contagious and is spreading from human to human.

### **How does novel H1N1 virus spread?**

Spread of novel H1N1 virus is thought to occur in the same way that seasonal flu spreads. Flu viruses are spread mainly from person to person through coughing or sneezing by people with influenza. Sometimes people may become infected by touching something – such as a surface or object – with flu viruses on it and then touching their mouth or nose.

### **What are the signs and symptoms of this virus in people?**

The symptoms of novel H1N1 flu virus in people include fever, cough, sore throat, runny or stuffy nose, body aches, headache, chills and fatigue. A significant number of people who have been infected with this virus also have reported diarrhea and vomiting. Severe illnesses and death has occurred as a result of illness associated with this virus.

### **How long can an infected person spread this virus to others?**

People infected with seasonal and novel H1N1 flu shed virus and may be able to infect others from 1 day before getting sick to 5 to 7 days after. This can be longer in some people, especially children and people with weakened immune systems and in people infected with the new H1N1 virus.

## **Prevention & Treatment**

### **What can I do to protect myself from getting sick?**

There is no vaccine available right now to protect against novel H1N1 virus. However, a novel H1N1 vaccine is currently in production and may be ready for the public in the fall. As always, a vaccine will be available to protect against [seasonal influenza](#).

There are everyday actions that can help prevent the spread of germs that cause respiratory illnesses like influenza.

### **Take these everyday steps to protect your health:**

- Cover your nose and mouth with a tissue when you cough or sneeze. Throw the tissue in the trash after you use it.
- Wash your hands often with soap and water, especially after you cough or sneeze. [Alcohol-based hand cleaners\\*](#) are also effective.
- Avoid touching your eyes, nose or mouth. Germs spread this way.
- Try to avoid close contact with sick people.
- If you are sick with flu-like illness, [CDC recommends that you stay home for at least 24 hours after your fever is gone](#) except to get medical care or for other necessities. (Your fever should be gone without the use of a fever-reducing medicine.) Keep away from others as much as possible to keep from making others sick.

### **What is the best technique for washing my hands to avoid getting the flu?**

Washing your hands often will help protect you from germs. Wash with soap and water or clean with [alcohol-based hand cleaner\\*](#). CDC recommends that when you wash your hands -- with soap and warm water -- that you wash for 15 to 20 seconds. When soap and water are not available, alcohol-based disposable hand wipes or gel sanitizers may be used. You can find them in most supermarkets and drugstores. If using gel, rub your hands until the gel is dry. The gel doesn't need water to work; the alcohol in it kills the germs on your hands.

**What should I do if I get sick?**

If you live in areas where people have been identified with novel H1N1 flu and become ill with influenza-like symptoms, including fever, body aches, runny or stuffy nose, sore throat, nausea, or vomiting or diarrhea, you should stay home and avoid contact with other people. [CDC recommends that you stay home for at least 24 hours after your fever is gone](#) except to get medical care or for other necessities. (Your fever should be gone without the use of a fever-reducing medicine.) Stay away from others as much as possible to keep from making others sick. Staying at home means that you should not leave your home except to seek medical care. This means avoiding normal activities, including work, school, travel, shopping, social events, and public gatherings.

If you have severe illness or you are at high risk for flu complications, contact your health care provider or seek medical care. Your health care provider will determine whether flu testing or treatment is needed.

If you become ill and experience any of the following warning signs, seek emergency medical care.

**In children, emergency warning signs that need urgent medical attention include:**

- Fast breathing or trouble breathing
- Bluish or gray skin color
- Not drinking enough fluids
- Severe or persistent vomiting
- Not waking up or not interacting
- Being so irritable that the child does not want to be held
- Flu-like symptoms improve but then return with fever and worse cough

**In adults, emergency warning signs that need urgent medical attention include:**

- Difficulty breathing or shortness of breath
- Pain or pressure in the chest or abdomen
- Sudden dizziness
- Confusion
- Severe or persistent vomiting
- Flu-like symptoms improve but then return with fever and worse cough

**Are there medicines to treat novel H1N1 infection?**

Yes. CDC recommends the use of oseltamivir or zanamivir for the treatment and/or prevention of infection with novel H1N1 flu virus. Antiviral drugs are prescription medicines (pills, liquid or an inhaled powder) that fight against the flu by keeping flu viruses from reproducing in your body. If you get sick, antiviral drugs can make your illness milder and make you feel better faster. They may also prevent serious flu complications. During the current pandemic, the priority use for [influenza antiviral drugs](#) during is to treat severe influenza illness (for example hospitalized patients) and people who are sick who have a condition that places them at high risk for serious flu-related complications.

## ***Tuberculosis (TB)***

### Basic TB Facts

"TB" is short for tuberculosis. TB disease is caused by a bacterium called *Mycobacterium tuberculosis*. The bacteria usually attack the lungs, but TB bacteria can attack any part of the body such as the kidney, spine, and brain. If not treated properly, TB disease can be fatal.

### How TB Spreads

TB is spread through the air from one person to another. The TB bacteria are put into the air when a person with active TB disease of the lungs or throat coughs, sneezes, speaks, or sings. People nearby may breathe in these bacteria and become infected.

TB is NOT spread by

- shaking someone's hand
- sharing food or drink
- touching bed linens or toilet seats
- sharing toothbrushes
- kissing

### Latent TB Infection and TB Disease

Not everyone infected with TB bacteria becomes sick. As a result, two TB-related conditions exist: latent TB infection and active TB disease.

- Latent TB Infection

TB bacteria can live in your body without making you sick. This is called **latent TB infection (LTBI)**. In most people who breathe in TB bacteria and become infected, the body is able to fight the bacteria to stop them from growing. People with latent TB infection do not feel sick and do not have any symptoms. The only sign of TB infection is a positive reaction to the [tuberculin skin test](#) or [special TB blood test](#). People with latent TB infection are not infectious and cannot spread TB bacteria to others. However, if TB bacteria become active in the body and multiply, the person will get sick with TB disease.

- TB Disease

TB bacteria become active if the immune system can't stop them from growing. When TB bacteria are active (multiplying in your body), this is called **TB disease**. TB disease will make you sick. People with TB disease may spread the bacteria to people they spend time with every day. Many people who have latent TB infection never develop TB disease. Some people develop TB disease soon after becoming infected (within weeks) before their immune system can fight the TB bacteria. Other people may get

sick years later, when their immune system becomes weak for another reason.

For persons whose immune systems are weak, especially those with HIV infection, the risk of developing TB disease is much higher than for persons with normal immune systems.

### The Difference between Latent TB Infection and TB Disease

A Person with Latent TB Infection	A Person with TB Disease
<ul style="list-style-type: none"> <li>• Has no symptoms</li> </ul>	<ul style="list-style-type: none"> <li>• Has symptoms that may include:               <ul style="list-style-type: none"> <li>- a bad cough that lasts 3 weeks or longer</li> <li>- pain in the chest</li> <li>- coughing up blood or sputum</li> <li>- weakness or fatigue</li> <li>- weight loss</li> <li>- no appetite</li> <li>- chills</li> <li>- fever</li> <li>- sweating at night</li> </ul> </li> </ul>
<ul style="list-style-type: none"> <li>• Does not feel sick</li> </ul>	<ul style="list-style-type: none"> <li>• Usually feels sick</li> </ul>
<ul style="list-style-type: none"> <li>• Cannot spread TB bacteria to others</li> </ul>	<ul style="list-style-type: none"> <li>• May spread TB bacteria to others</li> </ul>
<ul style="list-style-type: none"> <li>• Usually has a skin test or blood test result indicating TB infection</li> </ul>	<ul style="list-style-type: none"> <li>• Usually has a skin test or blood test result indicating TB infection</li> </ul>
<ul style="list-style-type: none"> <li>• Has a normal chest x-ray and a negative sputum smear</li> </ul>	<ul style="list-style-type: none"> <li>• May have an abnormal chest x-ray, or positive sputum smear or culture</li> </ul>
<ul style="list-style-type: none"> <li>• Needs treatment for latent TB infection to prevent active TB disease</li> </ul>	<ul style="list-style-type: none"> <li>• Needs treatment to treat active TB disease</li> </ul>

### *Dermatophytes (Ringworm)*

#### What are dermatophytes?

Dermatophytes are types of fungi that cause common skin, hair and nail infections. Infections caused by these fungi are also known by the names “tinea” and “ringworm.” It is important to emphasize that “ringworm” is not caused by a worm, but rather by a type of fungus called a “dermatophyte.” One example of a very common dermatophyte infection is athlete’s foot, which is also called tinea pedis. Another common dermatophyte infection affecting the groin area is jock itch, also known as tinea cruris .

*Trichophyton rubrum* and *Trichophyton tonsurans* are two common dermatophytes. These two species are usually transmitted from person to person. Another common dermatophyte is *Microsporum canis*, which is transmitted from animals such as cats and dogs to people. Dermatophytes like to live on moist areas of the skin, such as places where there are skin folds. They can also contaminate items in the environment, such as clothing, towels and bedding.

### **Who gets dermatophyte infections?**

Dermatophyte infections are very common. They can affect anyone, including people who are otherwise healthy. Dermatophyte infections may be more common among people with suppressed immune systems, people who use communal baths, and people who are involved in contact sports such as wrestling. Outbreaks of infections can occur in schools, households and institutional settings.

The dermatophyte infection that affects the scalp and hair is known as tinea capitis. It is especially common among school-aged children. For reasons that are not well understood, tinea capitis does not usually occur after puberty. Other kinds of dermatophyte infections tend to be more common in adolescents and adults.

### **How are dermatophyte infections spread?**

Spread usually occurs through direct contact with an infected person or animal. Clothing, bedding and towels can also become contaminated and spread the infection.

### **What are the symptoms of a dermatophyte infection?**

Dermatophyte infections can affect the skin on almost any area of the body, such as the scalp, legs, arms, feet, groin and nails. These infections are usually itchy. Redness, scaling, or fissuring of the skin, or a ring with irregular borders and a cleared central area may occur. If the infection involves the scalp, an area of hair loss may result. More aggressive infections may lead to an abscess or cellulitis. Areas infected by dermatophytes may become secondarily infected by bacteria.

### **How soon do symptoms appear?**

Symptoms typically appear between 4 and 14 days following exposure.

### **If I have symptoms, should I see my doctor?**

Yes. Most of the time these infections can be successfully treated with medication prescribed by your doctor.

### **How is a dermatophyte infection diagnosed?**

Your doctor may make a presumptive diagnosis based on your symptoms and physical examination. To confirm the diagnosis your doctor may obtain scrapings of affected skin or clippings of affected nails. These may be examined under a microscope and may be sent to the laboratory for a fungal culture. Keep in mind that the results of the fungal culture may not be available for 2-4 weeks.

### **How can dermatophyte infections be treated?**

The particular medication and duration of treatment is based on the location of the infection. Scalp infections usually require treatment with an oral antifungal medication. Infections of other areas of skin are usually treated with topical antifungal medications. Nail infections can be challenging to treat, and may be treated with oral and/or topical antifungal medications.

### **How can dermatophyte infections be prevented?**

Good hygiene, such as regular handwashing, is important. People should avoid sharing hairbrushes, hats and other articles of clothing that may come into contact with infected areas. Pets with signs of skin disease should be evaluated by a veterinarian. Beauty salons and barbershops should disinfect instruments with approved disinfectants after each use. Contact your local and/or state health department for specific guidelines and regulations in your area.

### **There is a ringworm outbreak in my child's school/daycare center. What should I do?**

You should contact your local health department. Your local health department may have information about how long children with ringworm should remain out of school/daycare. Tell your child not to share personal items, such as clothing, hairbrushes and hats, with other people. Encourage frequent handwashing. Take your child to the pediatrician if she/he develops symptoms.

### **My pet has ringworm and I am worried about ringworm in my house. What should I do?**

Make sure your pets have been evaluated by a veterinarian. If you develop symptoms, be sure to seek medical attention.

There are no federal guidelines about ringworm and environmental disinfection. Transmission of the infection may occur via direct contact with an infected person or animal or from contact with contaminated environmental surfaces. A reasonable approach is to perform regular cleaning to help remove spores from the environment. Make sure to use cleaning products according to the manufacturer's labeling, and never mix cleaning products, as harmful fumes may result. For surfaces that are safe to bleach, a quarter-cup of bleach in a gallon of water can be used for disinfection. For fabric surfaces or soft items that are washable, a hot water wash and hot air drying may help to remove and kill spores.

## **LESSON II**

### **SANITATION AND STERILIZATION**

#### **Learning Objectives**

In “Sanitation and Sterilization” the student will learn:

1. The definition of Sanitation and Sterilization
2. How to distinguish between disinfectants and antiseptics
3. Universal sanitation and sterilization precautions
4. Cosmetology rules for sanitizing hands and disinfecting tools
5. OSHA Standards and other Regulations

#### **Unit 1**

##### **Defining Sanitation and Sterilization**

#### **The Basics of Sanitation**

Sanitation is the hygienic means of preventing human contact from the hazards of wastes to promote health. Sanitize is to render sanitary, or free from elements, such as filth or pathogens, that endanger health. This does not mean all possible microorganisms, etc, but most. Sanitizing does not remove all bacteria, and microorganisms. Sanitization is the cleaning of pathogenic microorganisms.<sup>1</sup> Sanitation should be a part of everyone’s normal routine. In this way, everyone working there can maintain a professional image.

Inadequate sanitation is a major cause of disease world-wide and improving sanitation is known to have a significant beneficial impact on health both in households and across communities.

#### **The Basics of Sterilization**

Sterilize means to render sterile, or to make free of all live bacteria or other microorganisms. In other words it is a “total kill” of everything. Effective sterilization is the result of a marriage between the sterilant and a sterilization process. A fundamental process sequence common to many gaseous systems comprises preconditioning, exposure, and sealant removal phases. As progress is made to a more accurate sterilization process design, there will have to be more information about the relative resistance of organisms in nature versus those grown in the laboratory.

Sterilization is the killing of all microorganisms in a material or on the surface of an object. A surface or an object is either sterile or it is not sterile, there are no gradations in sterility. Typically the last things to die when one attempts sterilization is the highly heat or chemical-resistant endospores.<sup>1</sup>

#### *Methods of Sterilization*

Sterilization is the process of destroying all bacteria, whether they are harmful or beneficial. The process of sterilization is used to kill all bacteria on an implement. The process of sanitation destroys pathogenic bacteria

while sterilizing kills all bacteria. Since bacteria are everywhere, as soon as implement are sterilized, the air in the salon, puts bacteria on it. But it will be sanitary-aseptic or free from athogenic bacteria-if the entire salon has been cleaned thoroughly. This is why it is very important to keep everything in the salon sanitary. If pathogenic bacteria are in the salon, the implements used there will be toxic (unsanitary), also called septic.<sup>5</sup> Here is a list of the most common ways to sterilization:

- Boiling- requires the immersing of towels, linens, or instruments in water heated to 212 degrees Fahrenheit.
- Steaming- requires an airtight chamber in which steam is generated from water by the application of heat.
- Baking- A method of sterilization rarely used in beauty shops, but employed in hospitals.

Irradiation can only be used if approved by the State Board of Cosmetology. If approved, Irradiation is a process of sterilization by exposing an instrument, etc., to ultra-violet rays in an enclosed cabinet.

#### *Sterilizing Metallic Implements with Chemical Solutions*

A bowl of warm soapy water and a hospital level disinfectant in a wet sterilizer or other disinfectant approved by the State Board can be used to immerse implements in to sterilize them. Each implement can be dried on clean towels and put in individual envelopes.

#### *Sterilizing with Chemical Agents*

Liquid Disinfectant Mixing is a disinfectant with water and immersing the article in the solution, as specified by the State Board of Cosmetology or Board of Health, is the most practical method of sterilization in salons. Fumigation Fumigants in a closed cabinet are used to keep sterilized articles sterile before use.

### **Benchmark for Disinfection vs. Sanitization vs. Sterilization**

The sanitation and sterilization of equipment and surroundings are very important for the specialty-license professional. The study of bacteria and the spread of disease will give the knowledge needed to be familiar with the precautions necessary to protect oneself and the clients who are in the salon. The licensed professional has the responsibility to keep the salon clean and sanitary along with the instruments that they use. This 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.

True sterilization with alcohol is not effective. There is a big difference between sterilization vs. sanitization vs. disinfection. Something that is sterilized can also be considered sanitary, but something that is sanitized is not sterile. The use of any article that is not properly cleansed and disinfected on any patron is prohibited. Hands must be properly cleansed and sanitized prior to servicing each client.<sup>4</sup>

## Understanding the Growth and Existence of Bacteria

Bacteria are one-celled microorganisms sometimes called microbes. The scientific study of bacteria is called bacteriology. They are also called germs. Bacteria are everywhere in the air, on the ground, and even inside our bodies.<sup>5</sup> Bacteria are mostly unicellular organisms that lack chlorophyll and are among the smallest living things on earth—only viruses are smaller. Multiplying rapidly under favorable conditions, bacteria can aggregate into colonies of millions or even billions of organisms within a space as small as a drop of water.<sup>2</sup>

As the bacteria cell is nourished, it grows larger. When it has grown as large as it can, it divides itself into two cells that are the same size or daughter cells. This process of cell division is called mitosis. Mitosis can happen as often as once every 20 minutes.<sup>5</sup> The earth is not covered with bacteria because the conditions are rarely optimum. Under ideal conditions, the growth of a population of bacteria occurs in several stages termed lag, log, stationary, and death.<sup>2</sup>

- *Lag Phase* -- During the lag phase, active metabolic activity occurs involving synthesis of DNA and enzymes, but no growth.<sup>2</sup>
- *Log Phase* -- Once the metabolic machinery is running, they start multiplying exponentially, doubling in number every few minutes.<sup>2</sup>
- *Stationary Phase* – In this phase, the growth rate slows and the production of new cells equals the rate of cell death which involves the establishment of an equilibrium in population. It also reflects a lack of nutrients.<sup>3</sup>
- *Death Phase* – In this phase, toxic waste products build up and food is depleted.<sup>2</sup> The rate of cell deaths will exceed the number of new cells formed so the population equilibrium shifts to a net reduction in numbers thus entering the death phase where only a few cells remain or the population dies out entirely.<sup>3</sup>

After scientists discovered that the type of bacteria that causes disease are pathogens, or pathogenic, the government began to make and enforce laws to improve sanitation and thus protect the health of the community.<sup>5</sup> Only pathogenic bacteria can cause disease. Other bacteria are very helpful such as bacteria in yeast causes bread to rise, and other bacteria create the alcohol in wine.

However the pathogenic bacteria that cause disease are divided into three types:

- cocci,
- Spirilla
- bacilli.<sup>5</sup>

Each has a different shape, which can be seen through a microscope. Cocci are round, spirilla have spiral shapes, and bacilli are shaped like rods.<sup>5</sup>

## **Unit 2**

### **Distinguish Between Disinfectants and Antiseptics**

Disinfection is any process that destroys or removes disease-causing organisms such as viruses, bacteria or protozoa. A disinfectant is an agent, such as heat, radiation, or a chemical, that destroys, neutralizes, or inhibits the growth of disease-carrying microorganisms. Sanitation, safe collection, transportation, treatment and disposal of wastes, is an effective measure which creates and maintains a healthful environmental conditions.

Bacteriology is the science that deals with the study of microorganisms called bacteria. Bacteriology, sterilization, and sanitation are subjects of practical importance the cosmetologist because each one of these concepts has a direct bearing on one's health and well-being as well as on each clients' welfare who is a patron of the salon. To protect individual and public health, every cosmetologist should know when, why, and how to practice good disinfection and sanitation procedures. In order to understand the importance of sanitation, disinfection, and sterilization, a basic understanding of how bacteria affect our daily lives is most helpful.

#### **Disinfectants and Disease**

The spread of disease can be prevented with the appropriate use of disinfectants, antiseptics and germicides. Once an individual has an understanding of the relationship between bacteria and disease, the need for salon cleanliness and sanitation will make more sense.<sup>7</sup>

#### **Contagious Conditions and Diseases**

Contagious disease, skin infections, and blood poisoning are caused either by infectious bacteria being transmitted from one individual to another, or by the use of unsanitary implements such as combs, brushes, hairpins, clippers, rollers, manicure implements, esthetic tools, 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. Dirty hands and fingernails are other sources of infectious bacteria.<sup>7</sup>

Infectious pathologies are also referred to as communicable diseases. This is due to the potentiality of transmission from one person to another. Transmission of an infectious disease may occur through physical contact with infected individuals through the agents of liquids, food, body fluids, contaminated objects, airborne inhalation, or through vector-borne spread.<sup>19</sup>

Since infectious diseases are transmitted from some source, it is important to understand the biology of an infectious agent. Transmission may occur through respiratory diseases and meningitis as they are acquired by contact with aerosolized droplets, spread by sneezing, coughing, talking, kissing or even singing.<sup>20</sup> Some infectious agents may be spread as a result of contact with a contaminated, inanimate object such as a money, etc. passed from one person to another,. On the other hand, other diseases can penetrate the skin directly.

### *Fungi*

Fungi were listed in the "Plant Kingdom" for many years. Today, fungi are placed in their own Kingdom as microscopic and consisting of many cells. Molds, mildews, and yeast are all varieties of fungi. Fungi are incapable of manufacturing their own food so exhibit the behavior of parasites. These fungi cause diseases by using living organisms for food such as athlete's foot and ringworm, two fungal diseases in humans.<sup>21</sup> As a cosmetologist coming in contact with the public every day, it is important to follow precautions in order to avoid the spread of disease-producing bacteria. Sanitation and sterilization practices must be understood and followed for the protection of the cosmetologist and the clients.<sup>22</sup>

### *Vector Borne*

Transmission of infectious diseases may also involve a "vector". Vector Borne diseases are transmitted to humans or other animals by an insect or other arthropod is called a *vector-borne disease*. Vectors of human disease can be mosquitoes or ticks. Some species of mosquitoes and ticks are able to transmit viruses, rickettsiae, bacteria, or parasites to humans.<sup>23</sup>

Vectors may be mechanical or biological. A mechanical vector picks up an infectious agent on the outside of its body and transmits it in a passive manner. An example of a mechanical vector is a housefly, which lands on cow dung, contaminating its appendages with bacteria from the feces, and then lands on food prior to consumption. The pathogen never enters the body of the fly. This seems like an unlikely transference of bacteria in the salon, however, it is possible and must be considered by the cosmetologist as a possibility.<sup>24</sup>

### *Viruses*

Viruses cause a number of diseases such as smallpox, the common cold, chickenpox, influenza, shingles, herpes, polio, rabies, Ebola, hanta fever, and AIDS. Even some types of cancer have been linked to viruses.<sup>25</sup>

Viruses 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 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.<sup>22</sup>

## **Defining the Use of Disinfectants and Antiseptics**

Antiseptic solutions are weaker than disinfectant solutions. Antiseptics retard the growth of bacteria but they may not kill all the germs. Antiseptics will prevent germs from multiplying but still will not kill them. They are gentle enough to be used on the skin. Antiseptics are great to use as sanitizers, however they will not disinfect the salon instruments.<sup>7</sup>

### *Disinfectant Strength*

Disinfectants are much stronger and do have the ability to prevent germ and bacteria multiplication and disinfectants do destroy the bacteria. Then there is a germicide which is a chemical agent that kills bacteria. There is one reason that sterilization is required in the salon. That reason is to destroy bacteria. This is

necessary and required because bacteria must be destroyed in order to prevent the spread of disease. The importance of this everyone must be protected who either works in the salon or who passes through the salon.

Disinfectants and germicides are also antiseptic because they kill germs and retard the growth of more germs. Disinfectants are used to destroy bacteria and to sanitize equipment and implements. However, disinfectants should not be used on the skin. For disinfectants to be efficient they must be able to kill viruses, fungus, and dangerous bacteria.

### *Antiseptics*

Antiseptics are not as powerful as germicides or disinfectants. Therefore, they cannot be used as a germicide or disinfectant because they are not able to perform the necessary degree of germ killing. The salon professional should always exercise caution when using any chemical that will come in contact with the skin. Many of the disinfectants and germicides are not manufactured with the intention of being placed on the skin. The manufacturer's directions of cautions posted on the label or the container, should be read before using any chemical product.

### *The Environmental Protection Agency*

The Environmental Protection Agency (EPA) over sees the approval of disinfectants. To find an appropriate disinfectant look for an EPA registration number before making a selection. If you do not see an EPA registration number, chances are that is not an approved disinfectant. When choosing a disinfectant for use in your salon, you must choose one that is of hospital quality, so it is capable of killing viruses, dangerous bacteria, and harmful fungus.

### *Commonly Used Disinfectant*

A commonly used disinfectant in salons is "Quats" Quaternary Ammonium Compounds. New "Super Quats" are safe and destroy bacteria quickly. Most super quats will disinfect your instruments in ten to fifteen minutes. You should also use quats disinfectants to clean surface work areas. Both bleach and alcohol have been used as disinfectants. However, both of these agents have many disadvantages and they should no longer be used in a salon as a disinfectant. The state requirements are that salons use a hospital level disinfectant.

***Using Chemical Disinfectants*** -- All implements are to be thoroughly washed with soap and warm water and rinsed thoroughly with plain water rinse to remove all traces of soap. Immerse implements into wet sterilizer filled with hospital level disinfectant. Remove implements from wet sterilizer, rinse in water, and wipe dry with clean towel. Store sterilized implements in individually wrapped cellophane envelopes or keep them in a cabinet sterilizer until ready to be used.

### **Germicides, Disinfectants, Antiseptics**

Antimicrobials are things that kill microbes. Germicides are antimicrobials. Disinfectants are germicides that are not capable of sterilizing, typically because they fail to kill endospores, some viruses, and such organisms as *Mycobacterium tuberculosis*. Antiseptics are disinfectants that are used on living tissues. <sup>6</sup>

<b>Germicides</b>			
Alcohol	70%	Harmless	Effective
Chlorozol	2%	Harmless	Effective
Ammonium Compounds	1/1000 Solution	Non -Toxic	Odorless
Phenol	3% To 5%	Poison	Pungent Odor
Bichloride Of Mercury	0.1%	Poison	Irritates
<b>Antiseptics</b>			
Alcohol	50% to 60%	Harmless	Powerful
Iodine	2% U.S.P.	Skin Antiseptic	Effective
<b>Disinfectant</b>			
Lysol	10% solution	Good	Cleanses floors, sinks, etc.
Hydrogen Peroxide	3%-5%	Minor Wounds	Effective

### *Disinfectants*

Proper disinfectants are the answers to the prevention of the spread of dangerous organisms. Disinfection controls microorganisms on nonporous surfaces such as cuticle nippers and other implements. Disinfection is a higher level of decontamination than sanitation. It is second only to sterilization.

In the past, formalin was recommended as a disinfectant and fumigant in dry cabinet sanitizers. However, formalin is not safe for salon use. The gas released from formalin tablets or liquid is called formaldehyde. Formaldehyde is a suspected human cancer-causing agent. It is poisonous to inhale and is extremely irritating to the eyes, nose, throat, and lungs. It can also cause skin allergies, irritation, dryness, and rash.

After long-term use, formaldehyde vapors can cause symptoms similar to chronic bronchitis or asthma. These symptoms usually worsen over time with continued exposure. To properly disinfect a surface, first clean with suitable cleaner, apply disinfectant, and leave it for at least ten minutes. Wipe the surface dry with a clean damp cloth or paper towel.

It is very important to properly disinfect combs, brushes, scissors, razors, nippers, electrodes, and other commonly used tools. But there are many other surfaces in the salon to consider, for example: table or counter tops, foot baths, finger bowls, tanning beds, telephone receivers, door knobs, cabinet handles, mirrors, and cash registers. Any surface can be contaminated, especially if touched by clients and staff. These items must also be sanitized regularly.

Cosmetologists also must disinfect mixing utensils, combs, clipper blades, brushes, pins, clips, curlers, hair dryers, and chairs. Dirty fans and humidifiers can spread microbes throughout the salon. These devices should be properly cleaned on a regular basis.

*Types of Disinfectants* -- There are a variety of disinfectants that the salon can choose but they can all be divided into one of five groups based on the active ingredient used when manufacturing the product. 70% isopropyl alcohol is the standard active ingredient and it is widely available. The other active ingredients include phenolic, quaternary ammonium, sodium hypochlorite (or bleach) and peracetic acid.<sup>10</sup>

- **Alcohol and Bleach** -- The three most widely used alcohols are methyl alcohol, ethyl alcohol, and isopropyl alcohol. In the salon, ethyl and isopropyl alcohol are sometimes used to disinfect implements. However, it is important to note that in order to be effective, the strength of ethyl alcohol must be at least the strength of 70%, and the isopropyl alcohol must be at least the strength of 99%. If the cosmetologist operates in a state requiring hospital disinfection processes, then alcohol is not permitted since it is not an EPA-registered disinfectant. The alcohols are flammable, evaporate quickly, are slow-acting and are less effective when compared to other recommended disinfectants.
- **Phenols** -- Phenolic disinfectants have been a reliable disinfectant for implements over the years. Phenol is a caustic poison, but it can be safe and extremely effective if used according to instructions. Phenolic disinfectants in 5% solution are for metal or glass because rubber and plastic materials may be softened or discolored by phenols. Phenols are not safe on the skin because they can cause skin irritation, and concentrated phenols can seriously burn the skin and eyes. Some phenols are poisonous if ingested.
- **Quaternary Ammonium Compounds** -- Quats are a type of disinfectant considered nontoxic, odorless, and fast-acting. Dual quat formulas are dramatically more effective than the older formulas. Most quat solutions have the disinfectant strength to disinfect salon implements in 10 to 15 minutes. The cosmetologists must understand that leaving some tools in the solution for too long may damage the fine steel. The implements should be kept separated during the disinfecting process.
- **Sodium Hypochlorite** -- Neither bleach nor alcohols are professionally designed and tested for disinfection of salon implements. If they were used in the past it has been because there was not a more effective solution. Today we have a more effective solution in the disinfectants mentioned here. Bleach is can be considered an effective laundering additive for use in the salon.

Although quats are perfectly suitable for cleaning any surface, but not needed to clean floors, bathrooms, sinks, and waste receptacles. Lysol or Pine-Sol are better used in these situations since they are very effective disinfectants.<sup>8</sup>

### **The Cosmetology Professional Use of Antiseptics vs. Disinfectants**

Disinfectants are chemicals. To use a disinfectant properly, it is necessary to 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 to be used against bacteria, fungi, and viruses. A disinfectant that is "Formulated for Hospitals and Health Care Facilities," or a "Hospital Disinfectant," must be pseudomonacidal, 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.

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.<sup>9</sup>

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 filing, 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.<sup>9</sup>

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

#### *Disinfectant Safety*

Disinfectants are powerful, professional-strength tools that may be hazardous if used incorrectly. Some disinfectants are poisonous if ingested, and some can cause serious skin and eye damage, especially in a concentrated form. A good rule to remember is: Use Caution! Wear gloves and safety glasses while mixing disinfectants. Always keep disinfectants away from children.

#### *Disinfectant Safety and Skin Contact*

Use tongs or a draining basket to remove implements from disinfectants. Never pour quats, phenols, or any other disinfectant over hands. This foolish practice can cause skin disease and increase the chance of infection. Wash your hands with an antibacterial soap and dry them thoroughly. It is very important to carefully weigh and measure all products to assure they perform at their peak efficiency. Never place any disinfectant or other product in an unmarked container.

#### *Disinfectant Safety and Wet Sanitizers*

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. Strict adherence to the principles of good hygiene and disinfection must be maintained.

#### *Antiseptic*

Joseph Lister was the first to employ the antiseptic phenol, or carbolic acid, in surgery, following the discovery by Louis Pasteur that microorganisms are the cause of infections. Antiseptics hinder the growth and activity of microorganisms, or germs. Antiseptics can be classified according to their chemical structure. Commonly used antiseptic groups include alcohols, quaternary ammonium compounds, chlorhexidine and other diguanides, antibacterial dyes, chlorine and hypochlorites, inorganic iodine compounds, metals, peroxides and permanganates, halogenated phenol derivatives and quinolone derivatives.

### *Antiseptics and Disinfecting Instruments*

In cosmetology, the use of antiseptics is essential, especially in disinfecting instruments and other materials used in operations. Antiseptics are agents that kill or inhibit the growth of microorganisms on the external surfaces of the body. Antiseptics should generally be distinguished from drugs such as antibiotics that destroy microorganisms internally, and from disinfectants, which destroy microorganisms found on nonliving objects. Germicides include only those antiseptics that kill microorganisms. Some common antiseptics are alcohol, iodine, hydrogen peroxide, and boric acid. There is great variation in the ability of antiseptics to destroy microorganisms and in their effect on living tissue.

### *Time for Antiseptics to Work*

There is also a great difference in the time required for different antiseptics to work. Iodine, one of the fastest-working antiseptics, kills bacteria within 30 second. Other antiseptics have slower, more residual action. Since so much variability exists, systems have been devised for measuring the action of an antiseptic against certain standards. The bacteriostatic action of an antiseptic compared to that of phenol is known as its phenol coefficient. Modern surgical techniques for avoiding infection are founded on asepsis, the absence of pathogenic organisms. Sterilization is the chief means of achieving asepsis.

### *The Limitations of Antiseptics*

Antiseptics halt or prevent the growth of pathogenic bacteria. Antiseptics are not disinfectants. They do not destroy all bacteria. They are often used to maintain the sanitary condition of implements already sterilized. Doctors often use 3-5 percent hydrogen peroxide solution as an antiseptic to cleanse the skin.<sup>13</sup>

## **Unit 3**

### **Universal Sanitation and Sterilization Precautions**

Universal Precautions means a set of guidelines and controls, published by the Center for Disease Control (CDC) as guidelines for prevention of transmission of human immunodeficiency virus and hepatitis B virus to health-care and public-safety workers.<sup>26</sup> The medical, legal, and ethical problems associated with routine HIV screening have led to the recommendation that all patients should be presumed to be sero-positive and thus protective measures should be taken by all service professionals in the salons as well as in other professionals.<sup>18</sup>

Universal Precautions include hand-washing; gloving; personal protective equipment such as goggles; injury prevention; and proper handling and disposal of needles, other sharp instruments, and products that have been contaminated by blood or other body fluids.

### **Precautions**

Because blood can carry many pathogens, one should never touch a client's open sore or wound. The cosmetologist must insist that clients with open sores have a doctor certify they are not contagious. Blood spills occur when either the cosmetologist or a client are accidentally cut with a sharp instrument. Apply antiseptic and/or liquid or spray styptic as necessary. Cover with a Band-Aid or bandage as required to prevent further blood exposure.

### *Regarding Salon Implements*

Be sure to properly clean and disinfect any implement that comes in contact with h a cut or open sore in an EPA-registered, hospital disinfectant that kills HIV-1 and Hepatitis B Virus or a tuberculocidal disinfectant. Also, seal contaminated wipes or cotton balls in a plastic bag before disposing, then wash your hands with an antibacterial soap.

Disinfection is the removing of germs from tools, equipment, and the work area. Spills of blood or blood-contaminated body fluids should be cleaned up using a hospital level disinfectant approved by the EPA for use on blood spills.<sup>14</sup>

### *Regarding Use of Salon Implements*

The use of a brush, comb, etc. on more than one patron without being disinfected is prohibited. Each salon is required to have sufficient combs, brushes, and implements to allow for adequate disinfecting practices. Instruments should be handled as though contaminated until processed through the sterilization cycle. Combs or other instruments shall not be carried in pockets.<sup>27</sup> The cosmetologist is responsible for disinfecting methods which are effective and approved for salons. Disinfection can begin with first, cleaning articles with soap and water and completely immersing them in a chemical solution that is hospital level or EPA approved disinfectant.<sup>28</sup>

### *Regarding Use of Sharp Instruments*

To avoid injury from sharp instruments, personnel should wear puncture-resistant, heavy-duty utility gloves when handling or manually cleaning contaminated instruments and devices. Because splashing is likely to occur, they should also wear a facemask, eye protection or face shield, and gown or jacket. Employees should not reach into trays or containers holding sharp instruments that cannot be seen. To reduce their risk of injury, they should instead remove instruments using forceps or empty them onto a towel.

## **Barrier Protection**

Various types of Barrier Protection items put a shield between the cosmetologist and the clients.<sup>14</sup> The mainstays of universal precautions are barrier techniques against body fluid contact and protection from inadvertent needlestick.

### *Gloves*

Gloves should be worn whenever there is a possibility of contact with body fluids. Personal service workers such as hairdressers, barbers, cosmetologists, massage therapists should wear gloves when waxing, giving manicures/pedicures, facials, tweezing or any other service that could possibly draw blood.<sup>14</sup>

Though cosmetologists rarely wear them, latex gloves are another important safety precaution.<sup>16</sup> A client can look at this precaution as the way the cosmetologist is protecting him or her from eventualities from previous clients. Many service professionals wear latex gloves because they are using a technique known as "universal precautions." Universal precautions are a means to limit the spread of blood diseases by assuming that everybody's blood, bodily fluids, and tissues are infectious.

The federal Occupational Safety and Health Administration (OSHA) requires any worker at risk of contracting an infection to wear gloves. But, curiously, OSHA regulations leave it to employers and the various states to decide if workers in the cosmetology and barber industries should wear gloves.

There is good evidence that razors, nail files, barber's scissors, tattoo needles, and body piercing instruments are risk factors for transmitting hepatitis B and C. Since research has shown that hepatitis B can survive outside the body for seven days or more chairs, headrests, workbenches, instruments and tools in the nail and hair salons may be a source of blood-borne as well as other infectious diseases.<sup>17</sup>

### *Masks*

Masks should be worn whenever there is a possibility of splashing or splattering of body fluids. To minimize the risks for exchange of body fluids during resuscitation procedures, pocket masks or mechanical ventilation devices should be readily available where these procedures are likely to be needed.<sup>14</sup> Operators who wear face masks are not only protecting the client, they're protecting themselves from breathing in fumes and nail dust.<sup>17</sup>

### *Smocks*

Both clients and beauty professionals should wear smocks if soiling of clothing or splashing on exposed skin is likely.<sup>14</sup> It may seem like some of the barrier protection items are not necessary in a salon setting. However, because of the diversity of the cosmetologist, there are many situations that will present themselves through the day. Safety and precaution is the best option to take here

## **Personal Cleanliness**

Personal Cleanliness includes washing your hands, keeping your work area clean. Hands should be washed before and after client contact, and washed immediately if hands become contaminated with blood or other body fluids. Hands should also be washed after removing gloves. Beauty professionals, who have open lesions, dermatitis, or other skin irritations, should not participate in direct client contact and services and should never handle contaminated equipment or supplies, such as towels, smocks, capes, or even used cotton strips.<sup>14</sup>

## **Universal Standards and Laundry Processing**

Universal Standards and Precautions requires that laundry bags or containers, containing contaminated laundry be marked with an alternative label or color-code for handling all soiled laundry. The alternative marking permits employees to recognize the containers as requiring compliance with Universal Precautions. If contaminated laundry is sent off-site for cleaning to a facility which does not use Universal Precautions in the handling of all soiled laundry, it must be placed in a bag or container which is red in color or labeled with the biohazard label. Red bags or red containers may be substituted for the biohazard labels.<sup>15</sup>

## **Summary of Universal Standards and Precautions**

Universal precautions are recommended for doctors, nurses, patients, and health care support workers who are required to come into contact with patients or bodily fluids. This includes staff and others who may not come into direct contact with patients. Under universal precautions all patients are considered to be possible carriers of blood-borne pathogens. The guideline recommends wearing gloves when collecting or handling blood and body fluids contaminated with blood and wearing face shields when there is danger of blood splashing on mucous membranes and when disposing of all needles and sharp objects in puncture-resistant containers.

Many times, clients who are infected with Hepatitis B Virus or other bloodborne pathogens are asymptomatic. Asymptomatic means that he or she will show no symptoms or signs of infection. If the individual has a minor, nonspecific symptom, it may be that he or she has not diagnosis. Exposure to blood in the salon setting presents a risk of exposure to various diseases, including hepatitis and AIDS. That is the reason that the Universal Standards and Precautions must be adhered to whenever servicing a client.<sup>9</sup>

The overall health, safety, and cleanliness should be an integral part of one's normal routine and the routines of all those who work in the salon. Not only does this put safety at the top of the chart but it projects a steadfast professional image for the salon and each of the cosmetologists who work there.

## **Unit 4 Rules for Sanitizing Hands & Disinfecting Tools**

There is nothing more important when running a salon than the cleanliness, sanitation, and sterilization of the equipment or implements and the procedures you put into place to ensure your customers are protected. Training employees in the proper procedures is critical to the success of any sanitation and sterilization program. Customer safety is priority number one. Failure to comply with sanitation can hurt a salon business in more than one way. There will be potential losses with the State Board which regulates the sanitation and sterilization and the salon will lose customers when they see procedures that are not protocol.

### **Procedures for Sanitizing Hands**

Hand washing is one of the most important (and easiest) practices used to prevent transmission of bloodborne pathogens. Wash hands with hot, soapy water before working on a new client. Have both a client and the cosmetologist clean with a hand sanitizer. Several alcohol gels are available. Workers should wash their hands with soap and water before each customer and, if appropriate, wear disposable gloves. Any cuts or sores should be covered with a waterproof bandage.

#### *Antibacterial Soap*

Hands or other exposed skin should be thoroughly washed as soon as possible following an exposure incident with soft, antibacterial soap. Hands should also be washed immediately after removal of gloves or other personal protective equipment. Because hand washing is so important, you should familiarize yourself with the location of the hand washing facilities nearest to you. Laboratory sinks, public restrooms, janitor closets, and

so forth may be used for hand washing if they are normally supplied with soap. If working in an area without access to such facilities, an antiseptic cleanser in conjunction with clean cloth/paper towels or antiseptic towelettes can be utilized. If these alternative methods are used, hands should be washed with soap and running water as soon as possible.

## **The Disinfecting Process**

Disinfectants are used to kill and temporarily prevent the growth of bacteria, viruses and fungi. It is critical to understand the hierarchy of cleaning, sanitizing and disinfecting. Understanding the needed level of surface “clearing” helps the cosmetologist choose the correct product and also eliminates cross-contamination of experiments and also keeps the work environment a healthy one.

Disinfectants are chemicals so it is important to read and follow the manufacturer’s instructions for mixing precautions and exposure times. To meet salon requirements, a disinfectant must have the correct efficacy or effectiveness to be used against bacteria, fungi, and viruses such as one that is “formulated for Hospitals and Health Care Facilities,” or a “Hospital Disinfectant,” must be pseudomonacidal, in addition to being bactericidal, fungicidal, and virucidal. This information will be on the label of the disinfectant.

### *Salon Disinfectant Products*

This is a simplified guideline for understanding the product claims and terms used with salon disinfectant products. Any EPA-registered liquid disinfectants used in the salon must state “bactericidal, fungicidal, and virucidal” and “hospital” on the label. These disinfectants must be mixed, used, stored, and disposed of according to manufacturer’s label instructions. The disinfecting solution must be prepared fresh every day and replaced immediately when the solution becomes visibly contaminated. The object or item to disinfect must be completely immersed for 10 minutes after cleaning of all visible residue. Complete immersion means enough liquid to cover all surfaces of the item.

All bottles and containers (other than the original manufacturer’s container) containing any disinfectant must be properly labeled, listing the contents, percentage solution (concentration), and date of mixing.

Chelating surfactant detergents are recommended for pedicure spa units because they break down residue from pedicure products and are effective in hard water. Hard water contains calcium and magnesium ions, which can inactivate disinfectants and create residue films that are difficult for ordinary detergents to remove.

### *Proper Use of Disinfectants*

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 filing, creams, oils, and makeup must be cleaned from the implements so as to not contaminate the disinfecting solution as that will lessen the effectiveness of the solution. Implements must be completely submerged for proper disinfection.

### *Types of Disinfectants*

There are a variety of disinfectants on the market but the predominant ones can be classified into one of five groups based on the active ingredient used when manufacturing the product. 70% isopropyl alcohol is the standard active ingredient and it is widely available. The other active ingredients include phenolic, quaternary ammonium, sodium hypochlorite (or bleach) and peracetic acid.

One level of effectiveness that is measured by OSHA is determining the disinfectant is effective against tuberculosis. If a disinfectant is proven effective against TB, which is one of the hardest organisms to kill, then OSHA considers the use of this product satisfactory when disinfecting areas with human blood and other organisms.

*Quats* -- Quaternary ammonium compounds or quats are considered to be very safe and fast acting. New products use blends of several different quats which dramatically increase effectiveness by disinfecting implements in 10 to 15 minutes. Long-term exposure to any water solution or disinfectant may damage fine steel. Quats are also very effective for cleaning table and counter tops.

*Phenols* -- Phenolic disinfectants have been used for many years to disinfect implements. They can be safe and extremely effective if but one disadvantage is that certain rubber and plastic materials may be softened or discolored. Phenols are used mostly for metal implements. Phenolic disinfectants can cause skin irritation and burn as well as burning the eyes. Phenols must be kept out of the reach of children as some are poisonous if accidentally ingested.

*Alcohol, Bleach, and Commercial Cleaners* -- The three most widely used alcohol products are methyl alcohol, ethyl alcohol, and isopropyl alcohol. To be effective, the strength of ethyl alcohol must be no less than 70%. Isopropyl alcohol's strength must be 99%. Since alcohol is not an EPA-registered disinfectant, it is not permitted for use with implements in states requiring hospital disinfection. 70% alcohol, or a suitable alcohol-based disinfectant to sanitize or disinfect but not to sterilize. But there are specifics to consider when alcohol is used for instruments:

- Only one or two instruments should be disinfected at one time;
- The alcohol should cover the instruments;
- Period of immersion is timed for 30 minutes;
- Alcohol should be discarded after one use;
- Discard used alcohol down the sink in running water.
- Containers used for disinfecting with alcohol should be washed regularly with hot water and detergent, rinsed and dried.

*Chemical Germicides* -- Chemical germicides classified as disinfectants are products specifically used to inactivate microorganisms on inanimate objects. The type of disinfectant chosen, high-, intermediate-, or low-level disinfectants, depends on the item being disinfected and its level of risk in transmitting infection

### *Disinfectant Procedures and Applications*

Always disinfect 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.

The application of disinfectant products is one of personal choice. Products come in concentrated form or ready-to-use. If you wish to control the dilution ratio then using a concentrate is a good idea. If you are not concerned with controlling the dilution ratio and just wish to utilize an effective product, then ready-to-use is easy and convenient. Disinfectants are available as a solution or as a phenolic wipe or a phenolic solution.

### *Disinfecting Implements*

Combs, brushes, rollers, picks styling tools, scissors, tweezers, nail clippers, and some nail files must be disinfected by the process laid out below

- Pre-clean by removing hair, filings, and other loose matter with soap and water;
- Rinse thoroughly and pat dry with a clean towel;
- Mix disinfectant according to manufacturer's directions, always adding disinfectant to the water; (put on gloves, goggles, or safety glasses for the remainder of the process);
- Completely immerse implements or tools with tongs and leave for the required amount of time, (per manufacturer's instructions);
- Remove implements with tongs and gloves to not contaminate the disinfectant;
- Place rinsed and dried disinfected implements in a clean, closed, dry, disinfected container (plastic container with a lid).

### *Disinfecting Linens and Capes*

Capes, drapes and other linens coming in contact with a client's skin should be laundered with bleach according to label directions.<sup>9</sup> The salon must keep clean linens in a closed, dustproof cabinet. All soiled linens must be kept in a closed receptacle. All linens should be used once and then laundered with bleach according to label directions. A sanitary towel or neck strip should be placed around the patron's neck to avoid direct contact of the shampoo cape with a patron's skin.<sup>12</sup>

### *Disinfecting Work Surfaces*

An EPA-registered, hospital-grade disinfectant should be used on the work surfaces of the manicure table, work station, esthetic bed, etc. as well as doorknobs, handles, etc. The disinfectant must be left on the surface the full amount of time prescribed by the manufacturer's directions. The shampoo bowl including the neck of the bowl should be cleaned and the drain cleared of all hair after each client and disinfected.

### *Disinfecting Whirlpool Pedicure Foot Spas*

When using whirlpool pedicure foot spas, you must follow proper disinfection procedures to ensure proper maintenance of the equipment to prevent the spread of bacterial or parasitic disease. The cosmetologist must take time to carefully read the manufacturer's cleaning instructions and ask the manufacturer and/or distributor for a demonstration as well. Improperly disinfected equipment can harbor bacteria that may spread disease or infection to clients, cosmetologists, or nail technicians who come into contact with it.

### *Disinfecting Blood Spill*

Blood spills occur when the cosmetologist or a client are accidentally cut with a sharp instrument. If a blood spill should occur during a procedure, proper steps to be taken are:

- Stop the service and clean the injured area;
- Clean injured area as necessary with an antiseptic solution and cover the wound with sterile bandage as required to prevent further blood exposure;
- Use a finger guard or gloves;
- Apply antiseptic and/or liquid or spray styptic without contaminating the container;
- Do not allow containers, brushes, nozzles, or liquid styptic to touch the skin or contact the wound.
- Cover the injury with a Band-Aid or other appropriate dressing;
- Clean client and workstation;
- 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;
- Remove your gloves. Wash hands with soap and warm water before returning to the service;
- All tools and implements that have come into contact with blood or body fluids must be disinfected by complete immersion in a EPA-registered, hospital-grade disinfectant that kills HIV-1 and Hepatitis B Virus.

The cosmetologist must be sure to never touch a client's open sore or wound because blood can carry many pathogens.

### *Disinfecting the 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. The MSDS should also indicate the appropriate disinfectant to be used with each chemical.

## **The Sanitation Process**

Sanitation should be a part of everyone's normal routine. In this way, everyone working there can maintain a professional image. Some simple guidelines that will help keep the salon looking at its best are:

- Sweeping, mopping or vacuuming the floors;
- Picking up hair, cotton balls, etc. immediately;
- Deposit all waste materials in a waste receptacle with a self-closing lid;
- Control all types of dust;
- Clean the windows, screens;
- Clean fans, ventilations systems, and humidifiers.

Sanitation is the hygienic means of preventing human contact from the hazards of wastes to promote health. Hazards can be physical, microbiological, biological or chemical agents of disease. Inadequate sanitation is a

major cause of disease world-wide and improving sanitation is known to have a significant beneficial impact on health both in households and across communities.

### *Sanitization and Tool Type*

There are two kinds of tools commonly used in the nail salon: non-porous (which can be disinfected and are generally reuseable) and porous (which are either one-use only items or require specific cleaning protocol). Know what each implement you use is, as it directly affects your ability to comply with state laws and keep clients safe.

Porous items are made of cloth, wood, or other absorbent materials including nail files, orangewood sticks, cotton, paper mats, towels, and buffer blocks. Porous items must be thrown away after one use if the sanitizing process would hurt them in any way. Porous items of any type that are contaminated by blood, body fluid, broken skin, infections, or unhealthy conditions must be thrown in the trash immediate.

Porous items used on healthy nails can be cleaned by manually brushing and removing all visible debris after each use, then disinfected by immersing in 70% or higher isopropyl or ethyl alcohol or 10% bleach solution or by spraying provided the surface is kept wet for one to five minutes. Towels, chamois, buffing bits, and similar items can be cleaned in a washing machine with regular detergent at the end of each day.

Non-porous items are made of hard materials like metal, plastic, or glass, and include nippers, scissors, combs, metal or fiberglass-backed files, and drill bits. All non-porous tools must be disinfected even if they do not contact blood or unhealthy conditions. To clean a non-porous item, clean all visible debris then completely immerse the tool for 10 minutes in an EPA registered disinfectant, bleach solution (1 part bleach to 9 parts water), or 70% or higher isopropyl or ethyl alcohol.

### *Nail Sanitation*

Nail products regulated by the Food and Drug Administration. Under the Federal Food, Drug, and Cosmetic Act, these products are considered cosmetics because they are “articles other than soap which are applied to the human body for cleansing, beautifying, promoting attractiveness, or altering the appearance.”

By law, nail products sold as cosmetics in the United States must be free of poisonous or deleterious substances that might injure users under the usual or customary conditions of use intended by the manufacturer. Many nail products contain poisonous substances, such as acetonitrile in glue removers, but are allowed on the market because they are not harmful when used as directed. They're poisonous only when ingested, which is not their intended use. All nail tables, towels, and equipment must be clean and sanitary before use on a client.

- Spray nail table top with disinfectant and wipe dry before starting on new client.
- Each table should have its own disinfectant available for immediate use.
- A clean towel must be used for each client.
- Wash hands with hot, soapy water before working on a new client. Have both a client and the cosmetologist clean with a hand sanitizer. Several alcohol gels are available.
- Products - all fluids, semi-fluids, creams, and powders must be kept in clean, closed, labeled containers and dispensed with a disinfected spatula, shaker, pump, or spray dispenser.

- All nail polish and products must be labeled and kept closed unless in immediate use.
- Single-use items (emery boards, orange-wood sticks, cotton balls, etc.) must be disposed of immediately after use on one client.
- Materials must be discarded in a closed, covered waste container and be emptied at least once daily.
- Multi-use implements must be cleaned and disinfected.

#### *Immersable Implements vs. Non-Immersable Implements*

For the sanitizing of non-immersable implements thoroughly wash all implements with warm soapy water and dry with a clean towel. Secondly, spray with disinfectant and store in a clean, closed container.

For the immersable implements, thoroughly wash all implements in warm soapy water and dry with a clean towel. Secondly, completely immerse implements in a container with a germicidal disinfectant for the required time, usually 10 minutes. Then store the implements in a clean, closed container.

*Electric Files* – must be cleaned and disinfected after each client. To clean bits – wash in hot soapy water, remove all foreign matter (use a stiff brush) and soak in germicidal disinfectant for a minimum of 10 minutes. Any bits that cannot be disinfected, must be disposed of. Sanitized bits must be stored in a clean, closed container. Disinfected electrical equipment must be stored in a clean, closed container. Bits must be stored separately from the drill. The cosmetologist must have 8 hours of continuing education to use an electric file.

- Pedicure footspas – follow manufacturer’s directions on disinfection. Use a germicidal disinfectant as directed by the manufacturer. Sanitize after each client.
- If a **blood spill** occurs it must be treated immediately.
- **PROHIBITED** – products containing MMA.

### **The Sterilization Process**

Clean inside of cabinet and dry thoroughly. Prepare dry sterilizer. Full strength formalin can be used either one of two ways. (a) Mix 1 tablespoonful of borax with 1 tablespoon of formalin in a small tray, and place it into a dry sterilizer. (b) Place a piece of absorbent cotton in a small container, saturate the cotton with formalin, and place the container on the bottom shelf of a dry sterilizer. Have ready a supply of clean towels.<sup>22</sup>

#### *Steps for Dry Sterilization*

**Step 1** -- Decontaminate, clean, and dry all instruments and other items to be sterilized.

**Step 2** -- Either 1) wrap the instruments and other items using foil, double-layered cotton, or muslin fabric; 2) put unwrapped instruments and other items on a tray or shelf; or 3) place instruments and other items in a metal, lidded container. **Note:** Because dry-heat sterilization works by raising the temperature of the entire item to the designated temperature, it is not necessary to open or unlock hinged instruments or other items or to disassemble those with sliding or multiple parts. In addition, instruments and other items can be placed in closed containers.

**Step 3** -- Place instruments and other items in the oven, and heat to the designated temperature. The oven must have a thermometer or temperature gauge to make sure the designated temperature is reached.

### **Temperature**

170 degrees C (340 degrees F) - 1 hour  
160 degrees C (320 degrees F) - 2 hours  
150 degrees C (300 degrees F) - 2.5 hours  
140 degrees C (285 degrees F) - 3 hours<sup>29</sup>

Do not begin timing until the oven reaches the desired temperature, and do not open the oven door or add or remove any items). Sterilization is achieved with the times and the temperatures shown. Dry heat can dull sharp instruments and needles so these items should not be sterilized at temperatures higher than 160 degrees C.

**Step 4** -- Leave items in the oven to cool before removing. When they are cool, remove items using sterile pickups and use or store immediately.

**Step 5** -- Store items properly. Proper storage is as important as the sterilization process itself:

- **Wrapped items.** *Under optimal storage conditions and with minimal handling*, properly wrapped items can be considered sterile as long as they remain intact and dry. For optimal storage, place sterile packs in closed cabinets in areas that are not heavily trafficked, have moderate temperature, and are dry or of low humidity. When in doubt about the sterility of a pack, consider it contaminated and re-sterilize it.
- **Unwrapped items.** Use unwrapped items immediately after removal from the autoclave or keep them in a covered, sterile container for up to one week.<sup>29</sup>

### **Combs and Brushes**

At least six combs and brushes are to be provided for each cosmetology operator. All combs, brushes, esthetics and manicurist instruments shall be cleaned and disinfected.

#### *Cleaning Combs and Brushes*

The use of a brush, comb or other article on more than one patron without being disinfected is prohibited. Each salon is required to have sufficient combs, brushes, and implements to allow for adequate disinfecting practices. Combs or other instruments shall not be carried in pockets. Remove the hair from combs and brushes. Immerse combs and brushes completely into a bowl of soapy water for several minutes.<sup>38</sup> Clean each comb separately with a small brush. Clean the brushes two at a time by rubbing the bristles against each other. When thoroughly cleaned, rinse combs and brushes in bowl of clear, warm water. Drain off water and remove any adhering hairs.<sup>22</sup>

### *Sterilizing Combs and Brushes*

EPA registered, hospital/pseudomonacidal (bactericidal, virucidal, and fungicidal) and tuberculocidal is to be mixed and used according to the manufacturer's directions:

- Household bleach in a ten (10)% solution for 10 minutes;
- 70% or higher isopropyl alcohol for 15 minutes; or
- 90% ethyl alcohol for 15 minutes.

Adding ammonia to the soap bath is optional in the proportion of 1 tablespoon to 2 quarts of water. A bowl of warm water can be used for rinsing purposes. Immerse combs and brushes into the solution for 20 minutes. Remove combs and brushes, rinse in clear clean water, and dry them thoroughly with a clean towel. When thoroughly dry rest combs and brushes on a clean towel in a dust free place.<sup>22</sup>

The sterilizing solution will not shorten the service life of the comb, brush, esthetics or manicuring instrument. However, the user must wear personal protective equipment, such as gloves, recommended in the Material Safety Data Sheet prepared on the disinfectant by the manufacturer. They shall be rinsed with hot tap water and dried with a clean towel before their next use. If they are not used immediately, they can be stored in a clean, closed cabinet until they are needed.

### **Personal Care with the Use, Handling and Disposing of Chemicals**

When working in a salon setting, an employee will come in to contact with a large variety of chemicals. Since there is the risk of unintentionally creating hazards, it is important to be aware of all information with regards to safely handling and properly storing the chemical products. After acquiring the products, it is important to assemble MSDS sheets into a folder or binder for easy access and future reference.

Most salons buy products in bulk so the storage area should be adequately ventilated and not subject to extreme heat or cold. The chemicals must be closed tightly to prevent spillage during the course of the day. If an employee transfers a product out of the original container to another container, the new container must be properly labeled for quick and easy identification.

### *Protecting Against Fire*

Some cosmetic products are flammable or create conditions where fire can occur if there is a spark or open flame. It is always important to read the label warnings and make sure the salon has properly inspected fire extinguishers available in case of a fire. Practitioners who use chemicals in order to provide services to clients have to mix those chemicals in a dispensing area, which has adequate ventilation away from open flame or other source of potential ignition.

All chemically saturated towels and waste from the work and storage area must be placed in covered, fire-retardant containers. All chemicals shall be disposed of according to manufacturer's instructions and in accordance with local and state environmental requirements.

Smoking or use of an open flame at the workstation, by either the client or the cosmetologists during any phase of chemical service is strictly prohibited.

### *Prohibited Substances*

Cosmetic products containing hazardous substances, which have been banned by the U.S. Food and Drug Administration for use in cosmetic products, are prohibited on the premises of facilities. Products are prohibited from being used in a manner that is disapproved by the U.S. Food and Drug Administration. No product containing compounds or substances characterized as hazardous or harmful to humans by Material Safety Data Sheets (MSDS) and/or random product testing can be used.

## **Unit 5**

### **OSHA Standards & Other General Regulations**

The cosmetology industry is guided by state cosmetology laws and cosmetology boards, which set the standards for educational requirements, licensing and business operations. The policies of each state differ.

### ***Rules and Regulations for Training***

Cosmetologists and establishments that train and employ cosmetologists must abide by rules of hygiene and safety, which are determined by state cosmetology laws. These laws provide for safety and sanitation procedures regarding cleanliness, infection control, hazards, sanitation, sterilization of instruments, patron safety, and mechanical and electric equipment safety.

### **State Board of Cosmetology**

Each state has a Board of Cosmetology that exists to oversee and to ensure that proper sanitation procedures are met within each aspect of the running a salon - rules and regulations for hair salon, nail salons, massage and facial. Rules and regulations vary by state so it is important to understand and comply with the particular State Board in which the salon is located. Generally speaking, the State Board visits about once, maybe twice, a year to inspect the salons depending on the number of inspectors the state has and the number of salons within their designated area.<sup>32</sup>

### **Occupational Safety and Health Administration (OSHA)**

The focus of Occupational Safety and Health Administration (OSHA) is to assure safe and healthful working conditions for working men and women; by authorizing enforcement of the standards developed under the Act; by assisting and encouraging the States in their efforts to assure safe and healthful working conditions. They provide research, information, education, and training in the field of occupational safety and health.

In general, coverage of the OSH Act extends to all employers and their employees in the 50 states, the District of Columbia, Puerto Rico, and all other territories under federal government jurisdiction. Coverage is provided either directly by the Federal Occupational Safety and Health Administration (OSHA) or through an OSHA-approved state occupational safety and health program, in states that have approved programs

For bloodborne pathogens, OSHA issued a policy in 1997 stating that, in order to comply, the use of an EPA-registered tuberculocida disinfectant or an EPA-registered disinfectant labeled as effective against HIV and HBV is required. 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.

### *OSH Act of 1970*

In the OSH Act, an employer is any “person engaged in a business affecting commerce that has employees, but does not include the United States or any state or political subdivision of a State.” Therefore, the OSH Act applies to employers and employees in varied fields. Its focus is to assure safe and healthful working conditions for men and women; by authorizing enforcement of the standards developed under the Act.

The OSH Act of 1970 is applied with respect to employment performed in a workplace. The Secretary of the Interior provides for judicial enforcement of this Act by the courts established for areas in which there are no United States district courts having jurisdiction. The Occupational Safety and Health Act of 1970 wants to assure safe and healthful working conditions for men and women. The OSH Act was designed to protect employees and to require all private employers to comply with occupational safety and health standards in the workplace.

### *OSHA and the Cosmetology Industry*

The cosmetology industry uses more than 10,000 chemicals in its products, 89% of which have not been evaluated for safety. The polishes, acrylics and other products used in nail salons contain some twenty chemicals flagged as having “potential symptoms and health effects” by the Environmental Protection Agency. The list includes solvents like acetone, which may cause central nervous system depression, and ethyl methacrylate, linked to eye, skin and respiratory tract irritation.

The EPA evaluates a chemical’s health risks based on whether it exceeds OSHA’s permissible exposure limits, developed for industrial settings. These standards are designed to prevent acute problems like neurological intoxication or respiratory difficulty that develop soon after a large dose. They are not set up to assess cancer and chronic disease which develop from long-term, low-dose exposure. Many of the standards also have not changed since OSHA first set limits in 1968, when the populations it studied were mostly male.

### *OSHA Regulation*

OSHA regulates the hazardous chemical materials 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. They are also responsible to make sure the chemicals and cosmetics will not cause harm if used properly. The cosmetology professional 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.

### *OSHA and Bloodborne Pathogens*

For bloodborne pathogens, OSHA issued a policy in 1997 stating that, in order to comply with OSHA's Bloodborne Pathogens Standard, the use of a EPA-registered tuberculocidal disinfectant or an EPA-registered disinfectant 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 that kills.<sup>31</sup>

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 for 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; gloving; personal protective equipment such as goggles; injury prevention; and proper handling and disposal of needles, other sharp instruments, and products that have been contaminated by blood or other body fluids.<sup>31</sup>

### *OSHA's Jurisdiction*

Besides nearly every working man and woman in the nation coming under OSHA's jurisdiction with some few exceptions, other users and recipients of OSHA services include occupational safety and health professionals, the academic community, lawyers, journalists, and personnel of other government entities.

There is a regulatory jurisdiction existing over barbers and cosmetologists between the Board of Barbers and Cosmetologists, and the Bureau of Public Health. The Board is responsible for assisting the Bureau, administering the examination of cosmetologists, and issuing licenses. The primary area of overlap between the Bureau and the Board exists with dual rule-making authority. If the Board remains the dominant rule maker, the Legislature should consider reorganizing the membership composition of the Board in order to better represent the population of licensees.

### *OSHA Inspections*

Under the Occupational Safety and Health Act of 1970 (the Act), the Occupational Safety and Health Administration (OSHA) is authorized to conduct workplace inspections and investigations to determine whether employers are complying with standards issued by the agency for safe and healthful workplaces. OSHA also enforces Section 5(a)(1) of the Act, known as the "General Duty Clause," which requires that every working man and woman must be provided with a safe and healthful workplace.

Inspections are always conducted without advance notice. There are, however, special circumstances under which OSHA may give notice to the employer, but such a notice will normally be less than 24 hours. These circumstances include the following:

- Imminent danger situations that require correction as soon as possible;
- Accident investigations where the employer has notified the agency of a fatality or catastrophe;
- Inspections that must take place after regular business hours or that require special preparation;

- Cases where notice is required to ensure that the employer and employee representative or other personnel will be present;
- Cases where an inspection must be delayed for more than 5 working days when there is good cause; and
- Situations in which the OSHA Area Director determines that advance notice would produce a more thorough or effective inspection.

Employers who receive advance notice of an inspection must inform their employees' representative or arrange for OSHA to do so. If an employer refuses to admit an OSHA compliance officer or if an employer attempts to interfere with the inspection, the Act permits appropriate legal action, such as obtaining a warrant to inspect.

***Follow-up Inspections*** -- The follow-up inspection determines if the employer has corrected previously cited violations. If an employer has failed to correct a violation, the compliance officer informs the employer that he or she is subject to "Failure to Abate" alleged violations. Unfortunately, this involves proposed additional daily penalties until the employer corrects the violation.

To facilitate periodic inspections of mobile cosmetology salons, prior to the beginning of each month each mobile salon license holder must file with the board a written monthly itinerary. This itinerary will list the locations where and the dates and hours when the mobile salon will be operating.

## **Regulated Cosmetology Services**

### *Facial Services*

Cosmetologists and facialists are required to wash their hands with soap and water, or use a liquid hand sanitizer, prior to performing any services on any client. Gloves must be worn during any type of extraction. Equipment, implements, tools and materials are to be properly cleaned and disinfected prior to servicing each client in accordance to this rule.

Facial chairs, headrests and beds are to be cleaned and disinfected prior to providing service to each new client. The chair must be covered in a non-porous material if it is not made of non-porous material. The reason is so that the entire surface can be disinfected. The following implements are to be cleaned and disinfected after each client:

- Tweezers
- Comedone extractors.

The single-use implements are to be discarded in a trash receptacle after use. The single-use implements are the following:

- cotton pads, cotton balls and gauze,
- wooden applicators and lancets,
- disposable gloves and fabric strips;
- tissues and disposable wipes,

All the items used during services must be replaced with clean items for each client. Here is a list of some of those items:

- disposable and terry cloth towels,
- hair caps and headbands,
- brushes and makeup brushes,
- gowns,
- spatulas that contact skin
- products from multi-use containers
- sponges and other items used for a similar purpose.

Items subject to possible cross contamination should be used in a manner so as not to contaminate the remaining product. These items could be

- creams,
- cosmetics,
- astringents,
- lotions,
- removers,
- waxes,
- moisturizers,
- masks
- oils

Applicators are not to be re-dipped in product because of the possibility of cross-contamination. Permitted procedures to avoid cross contamination are:

- Disposing of the remaining product before beginning services on each client; or
- Using a single-use disposable implement to apply product and disposing of such implement after use; or
- Using an applicator bottle to apply the product.<sup>30</sup>

### *Manicure and Pedicure Services*

Cosmetologists and manicurists must clean their hands with soap and water or a hand sanitizer prior to performing any services. The areas of the client's body on which the service is to be administered must be cleaned by the cosmetologists and manicurists.

All metal manicure and pedicure tools are to be properly cleaned, disinfected and sterilized prior to each service regardless of the tool's multiuse for only a single client or for multiple clients. Single-use items are to be discarded after use such as:

- orangewood sticks,
- cotton balls,
- nail wipes
- disposable towels.

Buffer blocks, porous nail files, pedicure files, callus rasps, natural pumice and foot brush, arbor, sanding bands, sleeves, heel and toe pumice, exfoliating block are to be cleaned by manually brushing or using other adequate methods to remove all visible debris after each use. After that is done it should be sprayed with Isopropyl or ethyl alcohol, an EPA-registered bactericidal, fungicidal, and virucidal disinfectant, or a or a high level chlorine bleach solution. If a buffer block or porous nail file is exposed to broken skin or unhealthy skin or nails, it must be discarded immediately after use in a trash receptacle. The materials used during a manicure and pedicure that make contact with the skin or skin products must be replaced with new or clean articles after each client use:

- terry cloth towels,
- finger bowls
- spatulas.<sup>30</sup>

#### *Electric Drill Bits*

Electric files, drills, or machines specifically designed and manufactured for use in the professional nail industry are to be used in a cosmetology establishment for performing manicure or pedicure services. After each use, diamond, carbide, natural and metal bits shall be cleaned by either

- using a brush;
- using an ultrasonic cleaner; or
- immersing in acetone for 5 to 10 minutes.

Immediately after cleaning all visible debris, diamond, carbide, natural and metal bits shall be disinfected by complete immersion in an appropriate disinfectant between clients, then sterilized. Buffing bits and chamois must be cleaned with soap and water at the end of every day of use in addition to being cleaned or replaced between clients.<sup>30</sup>

#### *Footspas*

“Whirlpool footspa” or “spa” is any basin using circulating water, either in a self-contained unit or in a unit that is connected to other plumbing in the establishment. The cleaning and disinfecting procedures for foot spas should be followed for units connected to an establishment’s plumbing, and, to every extent possible, self-contained units. Before use, each whirlpool foot spa must be cleaned and disinfected in the following manner.

1. Drain all water and all debris shall be removed from the spa basin.
2. Clean then spa basin with soap or detergent and water.
3. Disinfect the spa basin with an EPA registered disinfectant with demonstrated bactericidal, fungicidal, and virucidal activity.
4. Wipe dry the spa basin with a clean towel.

Additional sanitizing should take place at the end of each day. Each whirlpool foot spa must be cleaned and disinfected in the following manner:

- Remove the screen and all the debris trapped behind the screen
- Wash the screen and the inlet with soap and water or detergent and water.

- Wash the screen with chlorine bleach solution of one-third cup of 5.25% chlorine bleach to one (1) gallon of water; or the screen can be totally immersed in an EPA-registered disinfectant with demonstrated bactericidal, fungicidal, and virucidal activity which must be used according to manufacturer's instructions.
- The spa system is to be flushed with soap and warm water for at least 10 minutes after which the spa is to be rinsed and drained.<sup>30</sup>

Bi-weekly, after cleaning and disinfecting each whirlpool foot spa, it can be cleaned and disinfected by:

- Filling the spa basin with water and one-third cup of 5.25% bleach for each one gallon of water.
- Flush the spa system with the chlorine bleach and water solution or an EPA-registered disinfectant for 5 to 10 minutes and allowed to sit for 6 to 10 hours.
- The spa system shall be drained and flushed with water before use upon a customer.

A record shall be made on a form prescribe by the department of the date and time of each cleaning and disinfecting indicating whether the cleaning was a daily or bi-weekly cleaning. This record shall be made at or near the time of cleaning and disinfecting. The record shall indicate if a spa was not used at all during any individual work day. Cleaning and disinfecting records shall be made available upon request by either a patron or a department representative.

Documentation must be maintained on all footspas or else it must be removed from service and not used again until it has be cleaned and disinfected and the records have been properly updated. Footspa chairs shall be cleaned and disinfected prior to providing service to each client. The chair has to be made of, or covered in a non-porous material that can be disinfected effectively.<sup>30</sup>

### *Blood and Body Fluids*

Since blood can carry many pathogens, the cosmetologist should never touch a client's open sore or wound. Powdered alum, styptic powder, or a cyanoacrylate (e.g. liquid-type bandage) may be used to contact the skin to stop minor bleeding, and should be applied to the open area with a disposable cotton-tipped disposable instrument to be discarded after application.

In the case of blood or body fluid on any surface area such as a table, chair, or the floor, an EPA-registered hospital grade disinfectant, a tuberculocidal disinfectant, or a 10% bleach solution (one-and-three quarters (1 ¾) cups of household (5.25%) bleach to one gallon of water) is to be used per manufacturer's instructions immediately to clean up all visible blood or body fluids.

If any non-porous instrument comes into contact with blood or body fluid, it shall be immediately cleaned and disinfected using an EPA-registered hospital grade disinfectant, a tuberculocidal disinfectant in accordance with the manufacturer's instructions, or totally immersed in a 10% bleach solution (one-and-three quarters (1 ¾) cups of household (5.25%) bleach to one gallon of water) for 5 minutes.

If any porous instrument contacts blood or body fluid, it shall be immediately double-bagged and discarded in a closed trash container or biohazard box.<sup>30</sup>

### *Establishments*

The salon establishment should maintain the floors, walls, ceilings, shelves, furniture, furnishings, and fixtures clean and in good repair. Appearance is one reason for this and the other reason is to always have a smooth, washable surface, free of cracks, holes, or other similar disrepair.

The floors in areas where services are performed, including restrooms and areas where chemicals are mixed or where water may splash, must be of a material which is not porous or absorbent and is easily washable. The only exception to that is when anti-slip applications or plastic floor coverings are used for safety reasons. Carpet is permitted in all other areas.

Plumbing fixtures, including toilets and wash basins, shall be kept clean. They must be free from cracks and similar disrepair that cannot be readily accessible for cleaning.

Each establishment must have suitable plumbing that provides an adequate and readily available supply of hot and cold running water at all times and that is connected for drainage of sewage and potable water within the areas where work is performed and supplies dispensed. Every establishment shall provide at least one restroom located on or near the premises of the establishment. For public safety, chemical supplies shall not be stored in the restroom.

Food or beverages shall not be prepared on licensed premises for sale. Pre-packaged food or beverages may be sold to or consumed by clients. For public health and safety, licensed premises shall eliminate any strong odors through adequate ventilation, including but not limited to, exhaust fans and air filtration to exhaust chemicals and fumes away from the public area and to provide for the input of fresh air.

Licensed premises shall not be utilized for living or sleeping purposes, or any other purpose that would tend to make the premises unsanitary, unsafe, or endanger the health and safety of the public. An establishment that is attached to a residence must have an entrance that is separate and distinct from the residential entrance. Any door between a residence and a licensed facility must be closed during business hours.

No animals with the exception of those providing assistance to individuals are allowed in establishments. Covered aquariums are allowed provided that they are maintained in a sanitary condition.<sup>30</sup>

### **Penalties**

These are the types of violations that may be cited and the penalties that may be proposed:

- **Serious Violation**—A Serious Violation is a substantial probability that death or serious physical harm could result. OSHA assesses the penalty for a serious violation from \$1,500 to \$7,000 depending on the gravity of the violation. OSHA may adjust a penalty for a serious violation downward based on the employer's good faith, history of previous violations, and size of business.
- **Other-Than-Serious Violation**—A violation that has a direct relationship to job safety and health, but probably would not cause death or serious physical harm. OSHA may assess a penalty from \$0 to \$1,000 for each violation. The agency may adjust a penalty downward by as much as 95%, depending on the employer's good faith, history of previous violations, and size of business

- **Willful Violation**—A violation that the employer intentionally and knowingly commits like when he or she is aware that a hazardous condition exists, knows that the condition violates a standard or other obligation of the Act, and makes no reasonable effort to eliminate it. OSHA may propose penalties of up to \$70,000 for each willful violation. The minimum willful penalty is \$5,000. An employer who is convicted in a criminal proceeding of a willful violation of a standard that has resulted in the death of an employee may be fined up to \$250,000 or imprisoned up to 6 months, or both. A second conviction doubles the possible term of imprisonment.
- **Repeated Violation**—A violation of any standard, regulation, rule, or order where, upon re-inspection, a substantially similar violation is found and the original citation has become a final order. Violations can bring a fine or up to \$70,000 for each such violation within the previous 3 years. OSHA adjusts the initial penalty for the size and then multiplies by a factor of 2, 5, or 10 depending on the size of the business.
- **Failure-to-Abate**—Failure to correct a prior violation may bring a civil penalty of up to \$7,000 for each day that the violation continues beyond the prescribed abatement date. Additional violations for which OSHA may issue citations and proposed penalties are as follows:
  - Falsifying records, reports;
  - Violating posting requirements may bring a civil penalty of \$7,000.
  - •Assaulting a compliance officer or otherwise resisting, opposing, intimidating, or interfering with a compliance officer is subject to a fine of not more than \$5,000 and imprisonment for not more than 3 years.

Citations and penalty procedures may differ somewhat in states with their own occupational safety and health programs.

