HIV/AIDS
(1 Hours)

What is HIV?

HIV is the human immunodeficiency virus that causes AIDS. A member of a group of viruses called retroviruses, HIV infects human cells and uses the energy and nutrients provided by those cells to grow and reproduce.

What is AIDS?

AIDS (acquired immunodeficiency syndrome) is a disease in which the body's immune system breaks down and is unable to fight off certain infections, known as "opportunistic infections," and other illnesses that take advantage of a weakened immune system.

The Joint United Nations Programs on HIV/AIDS (UNAIDS) estimates that there are over 40 million people living with HIV or AIDS worldwide. Most of them do not know they carry HIV and may be spreading the virus to others. In the U.S., over one million people have HIV infection or AIDS, or roughly one out of every 250 people. At least 40,000 Americans become newly infected with HIV each year, and it is estimated that half of all people with HIV in the US have not been tested and do not know they are carrying the virus. To date, AIDS has killed more than 30 million people worldwide, including more than 500,000 Americans. AIDS has replaced malaria and tuberculosis as the world's deadliest infectious disease among adults and is the fourth leading cause of death worldwide. d

I. Modes Of Transmission of HIV/AIDS

When a person is infected with HIV, the virus enters the body and lives and multiplies primarily in the white blood cells. These are the immune cells that normally protect us from disease. The hallmark of HIV infection is the progressive loss of a specific type of immune cell called T-helper or CD4 cells. As the virus grows, it damages or kills these and other cells, weakening the immune system and leaving the individual vulnerable to various opportunistic infections and other illnesses, ranging from pneumonia to cancer. The U.S. Centers for Disease Control and Prevention (CDC) defines someone as having a clinical diagnosis of AIDS if they have tested positive for HIV and meet one or both of these conditions: They have experienced one or more AIDS-related infections or illnesses; the number of CD4 cells has reached or fallen below 200 per cubic microliter of blood (a measurement known as T-cell count). A healthy CD4 count normally ranges from 450 to 1200.

Worldwide, sexual intercourse is by far the most common mode of HIV transmission, but in the U.S., as many as half of all new HIV infections are now associated either directly or indirectly with injection drug use, i.e., using HIV-contaminated needles to inject drugs or having sexual contact with an HIV-infected drug user.

General Transfer of bodily fluids from infected person(s):
A person who is infected carries the virus in certain body fluids, including blood, semen, vaginal secretions, and mother-to-child transmission during pregnancy, child birth or breastfeeding. The virus can be transmitted only if such HIV-infected fluids enter the bloodstream of another person. This kind of direct entry can occur (1) through the linings of the vagina, rectum, mouth, and the opening at the

tip of the penis; (2) through intravenous injection with a syringe; or (3) through a break in the skin, such as a cut or sore.

Transfer of bodily fluids via sexual activity:
Usually, HIV is transmitted through unprotected sexual intercourse (either vaginal or anal) with someone who is HIV infected. Women are at greater risk of HIV infection through vaginal sex than men, although the virus can also be transmitted from women to men. Anal sex (whether male-male or male-female) poses a high risk mainly to the receptive partner, because the lining of the anus and rectum are extremely thin and filled with small blood vessels that can be easily injured during intercourse.

There are far fewer cases of HIV transmission attributed to oral sex than to either vaginal or anal intercourse, but oral-genital contact poses a clear risk of HIV infection, particularly when ejaculation occurs in the mouth. This risk is increased when either partner has cuts or sores, such as those caused by sexually transmitted-diseases (STDs).

Sharing needles and other injection drug or oral hygiene equipment
Laboratory studies show that infectious HIV can survive in used needles for a month or more. This includes needles or syringes used to inject illegal drugs such as heroin, as well as steroids.

Other types of needles, such as those used for body piercing and tattoos, can also carry HIV infection. Tooth-brushing, or canker sores can also allow the virus to enter the bloodstream.

Pregnancy
During pregnancy, childbirth, or breast-feeding there is a risk of mother-to-infant transmission. However, this type of transmission has been reduced to just a few cases each year in the U.S, due to testing (see Clinical Management below).

II. Attitudes Toward HIV and AIDS:

It is not who you are, but what you do that determines whether you can become infected with HIV. One cannot tell by looking at someone whether he or she is infected with HIV or has AIDS.

Those who have regular contact with someone who is infected should take all appropriate precautions (see below). However, it is also important to understand the ways in which HIV is NOT passed from one person to another. It is not transmitted through food or air (for instance by coughing or sneezing). There has never been a case where a person was infected by a household member, relative, co-worker, or friend through casual or everyday contact such as sharing eating utensils and bathroom facilities, or hugging and kissing.

You cannot get HIV from giving blood at a blood bank or other established blood collection center. Sweat, tears, vomit, feces, and urine do contain HIV but have not been reported to transmit the disease (apart from two cases involving transmission from feces via cut skin). Mosquitoes, fleas, and other insects do not transmit HIV. (Harrisonburg Community Health Center, Harrisonburg, VA. http://www.hburgchc.org/care-management/what-is-hiv/)

III. Infection Control Procedures

In June 1981, CDC developed an investigative team to identify risk factors and to develop a case definition for national surveillance and prepared reports that identified all of the major risk factors for acquired immunodeficiency syndrome (AIDS).

In 1985, HIV antibody testing became available for the first time. The original purpose of this blood test was to screen the nation's blood supply so individuals would not become infected with HIV from a transfusion. In the U.S., screening the blood supply for HIV has virtually eliminated the risk of infection through blood transfusions.

If a salon or spa worker accidentally cuts someone who is HIV infected, all tools must be thoroughly cleaned and disinfected before they can be reused. The procedures for AIDS/HIV are the same as for any virus, bacteria, fungus, or parasite as stipulated by the U.S. Occupational Safety and Health Administration (OSHA) and the 2022 Florida Statutes (Chapter 477) -- Regulation of Professions and Occupations governing Cosmetology.
http://www.leg.state.fl.us/Statutes/index.cfm?App_mode=Display_Statute&URL=0400-0499/0477/0477.html

IV. Clinical Management

An infected person can appear completely healthy. But anyone infected with HIV can infect other people, even if no symptoms are present. In some people, the T-cell decline and opportunistic infections that signal AIDS develop soon after infection with HIV. Most people, however, remain asymptomatic for 10 to 12 years, a few for much longer. Early medical care can help prolong a person's life.

Immediately after infection, some people may develop mild, temporary flu-like symptoms or persistently swollen glands. Even if you look and feel healthy, you may be infected. The only way to know your HIV status for sure is to be tested for HIV antibodies, that is, proteins the body produces in an effort to fight off infection. This usually requires a blood sample. If your blood has HIV antibodies, that means you are infected.

There are a number of drugs to treat HIV infection and AIDS. Some are designed to treat the opportunistic infections and illnesses that affect people with HIV/AIDS. In addition, several types of drugs seek to prevent HIV from reproducing and destroying the body's immune system.

Any woman who is pregnant or considering becoming pregnant and thinks she may have been exposed to HIV even if the exposure occurred years ago should seek testing and counseling. Those who test positive are provided with drugs to prevent transmission and counseled not to breast-feed.

Anyone who thinks they may been exposed to HIV should get tested as soon as possible. Many physicians recommend a "hit early and hit hard" approach to anti-HIV therapy. Even if medications are not required right away, regular check-ups with a doctor who has experience with HIV/AIDS will enable patients to make the best decisions about how and when to begin treatment, without waiting

until they get sick. Someone who is HIV positive should begin immediately taking precautions necessary to protect others from becoming infected.

V. Prevention

Do not share syringes and properly clean and disinfect all salon tools

People who inject drugs of any type (including steroids) should never reuse or share syringes; water, or drug preparation equipment. If you must share equipment, disinfecting previously-used needles and syringes with bleach can reduce the risk of HIV transmission. If you are planning to have any part of your body pierced or getting a tattoo, be sure to see a qualified professional who uses sterile equipment.

Know Your Risk

Women are four times more likely to contract HIV through vaginal sex with infected males than vice versa. African American and Hispanic women, who represent less than one-quarter of U.S. women, represent nearly 80% of AIDS cases reported among American women to date.

Young people (under age 25) also have a greater likelihood of becoming infected with HIV. Nearly half of the roughly 40,000 Americans newly infected each year are under the age of 25. About 25% of the people now living with HIV in this country became infected when they were teenagers.

Having a sexually transmitted infection can increase the risk of acquiring and transmitting HIV. This is true whether you have open sores or breaks in the skin (as with syphilis, herpes and chancroid) or not (as with chlamydia and gonorrhea). Where there are breaks in the skin, HIV can enter and exit the body more easily. STIs can cause biological changes that may make HIV transmission more likely. Studies show that HIV-infected individuals who are infected with another STI are three to five times more likely to contract or transmit the virus through sexual contact. (Source: CDC - https://www.cdc.gov/std/hiv/stdfact-std-hiv-detailed.htm).

Practice Safer Sex

Male condoms are the only widely available barrier against sexual transmission of HIV. A "dental dam" (a square of latex)is recommended for use during oral- genital and oral anal sex. When used properly and consistently, condoms are extremely effective. Use only latex condoms (or dental dams). Lambskin products provide little protection against HIV. Use only water based lubricants. Latex condoms are virtually useless when combined with oil- or petroleum-based lubricants such as Vaseline or hand lotion. (People with latex allergies can use polyethylene condoms with oil based lubricants.) If needed, consult a nurse, doctor, or health educator for guidance on the proper use of latex barriers.

Female condoms are still relatively expensive, but they are gaining acceptance. Efforts are also under way to develop topical creams or gels called "microbicides" which can be applied prior to sexual intercourse to kill HIV and block other STIs that facilitate HIV infection.

State (Florida) and Federal Laws Pertaining to Cosmetology

(2 Hours)

Florida Administrative Code (Last Updated: April 2, 2019), 61. Department of Business and Professional Regulation; 61G5. Board of Cosmetology; 61G5-20. Cosmetology Salons; 61G5-20.002. Salon Requirements

GOALS: Familiarity and understanding of state and federal laws and rules as they pertain to cosmetologists, cosmetology, salons, specialists, specialty salons, and booth renters; specifically including but not limited to Chapter 477, F.S., and the Rules of the Board. At a minimum this instruction shall include the following:

1. The laws and rules of the Board that protect the health, safety, and welfare of the consumer;

2. The laws and rules of the Board that determine where and when individuals may legally practice cosmetology and specialties;

3. The functions of the Board of Cosmetology, how its members are appointed, and their duties;

4. The laws and rules of the Board which specify prohibited conduct, and the penalties for failure to follow the laws and rules;

5. Salon requirements and inspections; and

6. The dates, fees, and requirements for renewal of cosmetology licenses, salon licenses, and specialty registrations.

BACKGROUND

The use of cosmetic products or any substance used in the practice of cosmetology in the U.S. is regulated by the U.S. Food and Drug Administration. The State of Florida has its own Board of Cosmetology (Board) with responsibility for further supporting the cosmetology industry by adopting by rule any restriction related to the use of a cosmetic product or any substance used in the practice of cosmetology if the Board finds that the product or substance poses a risk to the health, safety, and welfare of clients or persons providing cosmetology services in the state. The Board's work is carried out by the Florida Department of Business and Professional Regulation (DBPR).

The Administrative code defines **Cosmetology** as:

> *The mechanical or chemical treatment of the head, face, and scalp for aesthetic rather than medical purposes, including, but not limited to, hair shampooing, hair cutting, hair arranging, hair coloring, permanent waving, and hair relaxing for compensation. This term also includes performing hair removal, including wax treatments, manicures, pedicures, and skin care services.*

The code further regulates **Specialists** meaning any person holding a specialty registration in one or more of the following specialties:

(a) Manicuring, or the cutting, polishing, tinting, coloring, cleansing, adding, or extending of the nails, and massaging of the hands. This term includes any procedure or process for the affixing of artificial nails, except those nails which may be applied solely by use of a simple adhesive.

(b) Pedicuring, or the shaping, polishing, tinting, or cleansing of the nails of the feet, and massaging or beautifying of the feet.

(c) Facials, or the massaging or treating of the face or scalp with oils, creams, lotions, or other preparations, and skin care services.

FLORIDA BOARD OF COSMETOLOGY (BOARD)

Board Functions, appointments, and duties

The Board is made up of seven members who are appointed by the Governor. Their function is to regulate cosmetologists, nail specialists, facial specialists, full specialists, hair braiders, hair wrappers, body wrappers and cosmetology salons.

Five members must be licensed cosmetologists who have been engaged in the practice of cosmetology in Florida for not less than 5 years. Two members must be laypersons. Each board member shall be a resident of Florida for not less than 5 continuous years. The Governor may at any time fill vacancies on the board for the remainder of unexpired terms. Each member of the board shall hold over after the expiration of his or her term until a successor is duly appointed and qualified. No board member shall serve more than two consecutive full or partial terms.

The board meets during the year as it determines to be necessary, but must have one annual meeting. The board and all members are accountable to the Governor who is responsible for investigating any complaints or unfavorable reports received concerning the actions of the board, or its members. Complaints for any specialist or cosmetologists should be directed to DBPR.

1. **Board laws and rules that protect the health, safety, and welfare of the consumer**

Following are the key safety and sanitary requirements governing salons, detailed in the above statutes:

- ***Ventilation and Cleanliness:*** Each salon shall be kept well ventilated. The walls, ceilings, furniture and equipment shall be kept clean and free from dust. Hair must not be allowed to accumulate on the floor of the salon. Hair must be deposited in a covered waste receptacle. Each salon which provides services for the extending or sculpturing of nails shall provide such services in a separate area which is adequately ventilated for the safe dispersion of all fumes resulting from the services.

- ***Toilet and Lavatory Facilities*****:** Each salon shall provide – on the premises or in the same building as, and within 300 feet of, the salon – adequate toilet and lavatory facilities. Such facilities must have least one toilet and one sink with running water, and be equipped with toilet tissue, soap dispenser with soap or other hand cleaning material, sanitary towels or other hand-drying device such as a wall-mounted electric blow dryer, and waste receptacle. Such

shall be kept clean, in good repair, well-lighted, and adequately ventilated to remove objectionable odors.

- ***Animals***: No animals or pets shall be allowed in a salon, with the exception of service animals and fish kept in closed aquariums.

- ***Shampoo Bowls****:* Each salon shall have shampoo bowls in the area where cosmetology services are being performed, equipped with hot and cold running water. A specialty salon that exclusively provides specialty services, as defined in Section 477.013(6), F.S., need not have a shampoo bowl, but must have a sink or lavatory equipped with hot and cold running water on the premises of the salon.

- ***Linens:*** Each salon shall keep clean linens in a closed, dustproof cabinet. All soiled linens must be kept in a closed receptacle. Soiled linens may be kept in open containers if entirely separated from the area in which cosmetology services are rendered to the public. A sanitary towel or neck strip shall be placed around the patron's neck to avoid direct contact of the shampoo cape with a patron's skin.

2. Where and when individuals may legally practice cosmetology and specialties

Chapter 477 of Florida Statutes sets forth the Florida law items that must be adhered to by all licensed individuals.

- ***Shared Space:*** No cosmetology or specialty salon shall be operated in the same licensed space allocation with any other business which adversely affects the sanitation of the salon, or in the same licensed space allocation with a school teaching cosmetology or a specialty licensed under Chapter 477, F.S., or in any other location, space, or environment which adversely affects the sanitation of the salon.

- ***Division of Space:*** In order to control the required space and maintain proper sanitation, where a salon adjoins such other business or school, or such other location, space or environment, there must be permanent walls separating the salon from the other business, school, location, space, or environment and there must be separate and distinctly marked entrances for each.

- ***Salons in a Residence****:* A salon, or specialty salon may be located at a place of residence. Salon facilities must be separated from the living quarters by a permanent wall. The Salon must have a separate entrance from the living space. Toilet and lavatory facilities (see subparagraph (c)2, above) shall have an entrance from the salon other than the living quarters.

- ***Physical Space:*** Full or specialty salons must contain a minimum of 100 square feet of floor space. No more than one (1) cosmetologist or specialist may be employed in a salon which has only the minimum floor space. An additional 50 square feet will be required for each additional specialist or cosmetologist employed.

2A – UPDATES as of July 1, 2020 (see Addenum 1):

The following cosmetology/spa services may be performed by unlicensed persons:

- hair braiding; hair wrapping; body wrapping; applying polish to fingernails and toenails; makeup application, which includes, but is not limited to, application of makeup primer, face paint, lipstick, eyeliner, eye shadow, foundation, rouge or cheek color, mascara, strip lashes, individual lashes, face powder, corrective stick, and makeup remover. <u>These services can be performed either inside or outside a licensed salon.</u>

The following cosmetology/spa services may be performed only by licensed persons:

- hair shampooing, hair cutting, hair arranging, nail polish removal, nail filing, nail buffing, nail cleansing, and massage services. <u>These services can be performed either inside or outside a licensed salon.</u>

The following cosmetology/spa services may be performed only by licensed persons <u>only inside a licensed salon:</u>

- hair coloring, permanent waving, hair relaxing, hair removal, including wax treatments, manicures, pedicures, skincare services, manicuring, or the cutting, polishing, tinting, coloring, cleansing, adding, or extending of the nails, and massaging of the hands, including any procedure or process for the affixing of artificial nails (except those nails which may be applied solely by the use of a simple adhesive), pedicuring, or the shaping, polishing, tinting, or cleansing of the nails of the feet, and massaging or beautifying of the feet, facials, or the massaging or treating of the face or scalp with oils, creams, lotions, or other preparations, and skincare services.

To legally perform the full range of services outside of a licensed salon, a licensed person must

- book the appointments through a licensed salon; record and keep the name of the client and the address at which the services are to be performed; have the client establish or certify that the services are necessary to be performed outside of the salon location because (a) the client, for reasons of ill health is unable to go to a licensed salon; or (b) the services are being performed in connection with a special event defined as “weddings, fashion shows, and other events as approved by the board”.

3. **Prohibited conduct, and penalties for failure to follow the laws and rules**

- ***FDA enforcement:*** Infection control must be used by every specialist and cosmetologist and sterilization is the complete destruction of all microbial life. The board may adopt any restriction established by a regulation of the FDA if the board finds that a product or substance poses a risk to health, safety, and welfare of clients or persons providing cosmetology services.

- ***Fine:*** In any case where a salon is found to be operating without sterilization equipment the Board shall impose an administrative fine of $250.00.

4. **Salon requirements and inspections**

- The DBPR may inspect all proposed salons. In addition, they may inspect each licensed salon at least biennially.

- Each licensed salon must comply with all local building and fire codes, as well as all FDA and Board laws and regulations.

- No person shall, for any reason intentionally, or directly inhibit an authorized representative of the Department from performing said inspections.

- All holders of a cosmetology or specialty salon license shall display within their salons in a conspicuous place which is clearly visible to the general public upon entering the salon the following documents:
  (a) The current salon license,
  (b) A legible copy of the most recent inspection sheet for the salon.

- All holders of a cosmetology or specialty salon license shall require and ensure that all individuals engaged in the practice of cosmetology or specialty display at the individual's workstation their current license or registration at all times when the individual is performing cosmetology or a specialty. **(61G5-20.004 – updated 11/20)**

- The license or registration certificate on display shall be current and shall have attached a 2'' by 2'' photograph taken within the previous two years of the individual whose name appears on the certificate. The certificate with photograph attached shall be permanently laminated.

- All holders of a cosmetology or specialty salon license shall display at each footbath a copy of the Consumer Protection Notice regarding footbaths, sanitation, and safety.

5. Dates, fees, and requirements for renewal of cosmetology licenses, salon licenses, and specialty registrations.

- Cosmetology/Specialty licenses must be renewed biennially on or before November 30 of each biennial (even-numbered) year, by meeting all the current requirements for salon licensure as expressed in Rule Chapter 61G5-20, F.A.C., and by paying the renewal fee specified in Rule 61G5-24.009, F.A.C. Currently, the fee is not to exceed $50 for the reactivation of an inactive license and a fee not to exceed $50 for the renewal of an inactive license.

- **SECTION 468.1205. Inactive status; reactivation; continuing education; application procedures; renewal:** The Board creates rules concerning the application procedures for inactive status, the renewal of an inactive license or certificate, and the reactivation of an inactive license or certificate.

- The Board sets and enforces rules include continuing education requirements for reactivating a license or certificate. The continuing education requirements for reactivating a license or

certificate may not exceed 25 contact hours for each year the license was inactive, in addition to the continuing education that was required for renewal on the date the license became inactive. All cosmetologists, facial specialists, nail specialists and full specialists must complete 16 hours of board-approved continuing education prior to the license/registration renewal.

- All holders of a cosmetology or specialty salon license shall display the following documents: (a) The current salon license, (b) A legible copy of the most recent inspection sheet for the salon within their salons in a conspicuous place which is clearly visible to the general public upon entering the salon.

- The Board will impose a fine of $500 for a salon which has never been licensed, or for which the salon license has expired.

ADDENDUM 1 – Florida Laws

61G5-20.0015 Performance of Cosmetology or Specialty Services Outside a Licensed Salon.

(1) "Special events" are weddings, fashion shows, and other organized public or private events with a duration of no more than three consecutive days, and where cosmetology services are essential to the event, and the cosmetologist does not provide services to the general public.

(2) Cosmetology or specialty services may be performed by a licensed cosmetologist or specialist in a location other than a licensed salon, including a hospital, nursing home, residence, or similar facility, when a client for reasons of ill health is unable to go to a licensed salon. Such services are not to be performed upon employees or person who do not reside in the facility, or any other non-qualified persons. Arrangements for the performance of cosmetology services pursuant to this subsection shall be made only through a licensed salon.

(3) Cosmetology services may only be performed in a photography studio salon subject to the following requirements:

(a) Only hair-arranging services and the application of cosmetic products may be performed in a photography studio salon, and only for the purpose of preparing a model or client of the photography studio for a photographic session. Shampooing the hair, hair cutting, hair coloring, permanent waving of the hair, hair relaxing, hair removal, manicuring, pedicuring, and the performance of any other service defined as cosmetology may not be performed in a photography studio salon.

(b) All hair-arranging services and applications of cosmetic products to be performed in the photography studio salon shall be performed by a licensed Florida cosmetologist or under the supervision of a licensed cosmetologist employed by the salon. "Under the supervision of a licensed cosmetologist" shall mean that an individual who then holds a current, active Florida license as a cosmetologist shall be physically present at the photography studio salon at all times when hair-arranging services or applications of cosmetic products are being performed.

(c) When performing hair-arranging services, the photography studio salon shall use either disposable hair-arranging implements or shall use a wet or dry sanitizing system approved by the federal Environmental Protection Agency.

(4) Hair shampooing, hair cutting, hair arranging, nail polish removal, nail filing, nail buffing, and nail cleansing may be performed in a location other than a licensed salon when the service is performed by a person who holds the proper license. The licensee shall use either disposable implements or a wet or dry sanitizing system approved by the federal Environmental Protection Agency.

(5) The following procedures shall be followed when performing cosmetology services outside of a licensed salon:

(a) Information as to the name and contact information of the client and the address at which the services are to be performed shall be recorded in an appointment book.

(b) For services required to be scheduled through a salon, the appointment book shall remain at the salon and be made available upon request to any investigator or inspector of the Department.

(c) For services in subsection (4) that have been scheduled directly with the licensed cosmetologist or specialist, the appointment book shall remain with the provider.

Rulemaking Authority 477.016, 477.025(2), 477.0263, 477.0135(4) FS. Law Implemented 477.013(11), 477.025(2), 477.0263(2), (4), 477.0135(4) FS. History–New 12-29-83, Amended 10-6-85, Formerly 21F-20.015, 21F-20.0015, Amended 11-25-98, 8-12-13, 11-22-20, 10-18-21.

Sanitization and Sterilization

(3 Hours)

Standard cleaning and disinfecting requirements outlined in Florida Administrative Code (March 5, 2019) 61G5-20.002, set forth by the Board of Cosmetology concerning cleaning, disinfecting, and sterilizing all salon equipment and space. (SEE ADDENDUM)

I. Understanding Bacteria, Viruses, Bloodborne Pathogens, Fungi, and Parasites

Owners and operators of salons must understand how to identify potentially harmful bacteria and other disease-causing organisms in order to help mitigate the spread of disease and protect their clients and themselves. The organisms described below can enter the body and cause disease through:

- Broken or inflamed skin
- The mouth (contaminated water, food, or fingers)
- The nose (inhaling certain types of dust or droplets from a cough or sneeze)
- The eyes or ears
- Unprotected sex

Bacteria

Bacteria are micro-organisms that may be as small as the point of a needle, but can cause serious illness. There are two types of bacteria--pathogenic (harmful) and non-pathogenic (harmless). The majority of bacteria are non---pathogenic, and may actually be beneficial. Pathogenic bacteria are fewer in number but are the most dangerous because they can produce and spread disease in plant and animal tissue.

The most common type of pathogenic bacteria is bacilli. These are short rod-shaped organisms that produce diseases such as tetanus, typhoid fever, tuberculosis, and diphtheria. There are two other types that are identified by their size and shape—Cocci (round) and Spirilla (corkscrews). They can appear alone or in groups, which may further be classified into subgroups. Bacteria exist everywhere, particularly on the skin and they grow best in warm, dark, damp, or dirty places.

A particularly dangerous bacteria that can be found in salons and spas is **staph**. Staph causes bacterial infections that typically start as tissue inflammation and lesions that secrete pus. The pus may contain staph bacteria that can lead to many dangerous diseases including MRSA. Staph bacteria can be picked up on doorknobs, countertops, and other surfaces. In salons it is likely to spread through skin-to-skin contact or use of unclean tools or implements.

Viruses

A virus is a submicroscopic particle that infects and resides in the cells of a biological organism. They cause common colds and other respiratory and gastrointestinal infections. They are different from bacteria because they can live only by taking over other cells inside the body and becoming part of them. They are too small to be seen with the naked eye, and are hard to kill. Cosmetologists cannot remove them, but should be aware of their danger, and can potentially protect themselves by getting vaccinations, particularly for hepatitis B.

Bloodborne Pathogens

These are microorganisms that are carried in the body by blood or body fluids and can cause diseases

such as hepatitis and HIV. They are a type of virus that can live outside of the body on the skin for long periods of time.

Some infections that can be transmitted through contact with blood and body fluids include:

HIV, Hepatitis A, B, C, Staph and Strep infections, Gastroenteritis-salmonella, and shigella, Pneumonia, Syphilis, TB, Malaria, Measles, Chicken Pox, Herpes, Urinary tract infections, and Blood infections. The greatest risks are from HIV and Hepatitis B and C.

Fungi

Fungi are microscopic plant parasites that include mold, mildew, and yeast. Many live off of keratin, a protein that makes up the skin, and thrive in dark, moisture-rich environments on the body. They can cause infections such as tinea pedis (ringworm of the foot/athletes foot), nail infections, barber's itch (inflammation of the hair follicles, primarily in males), and thrush (infections in the mouth or vaginal areas caused by yeast).

Parasites

These are organisms that grow, feed, and shelter on or in a "host" organism. The most common parasite is head lice which can cause other contagious diseases and skin conditions.

II. Universal and Standard Precautions

The U.S. Centers for Disease Control and Prevention (CDC) publishes the most widely followed guidelines for preventing the spread of diseases called Universal Standards (UC). Initially UC included a set of **Universal Precautions (UP)** to help workers protect themselves and others from the risk of disease transmission from blood, other bodily fluids containing visible blood, semen, vaginal secretions, body tissues, and other specific fluids.

In 1996 due to the spread of bloodborne pathogens such as HIV, the CDC added a publication of **Standard Precautions (SP)** that includes include newer standards and effective methods for handwashing based on their investigative research. SP applies to all cosmetology workers and their clients regardless of their diagnosis or presumed infection status. Cosmetologists should use these when exposed to 1) blood; 2) all body fluids, secretions, and excretions, except sweat, regardless of whether or not they contain visible blood; 3) non-intact skin; and 4) mucous membranes. Standard precautions are designed to reduce the risk of transmission of microorganisms from both recognized and unrecognized sources of infection. All cosmetologists should review and understand the differences between UP and SP. https://www.osha.gov/laws-regs/standardinterpretations/2009-02-27

III. Infection and infestation control

Decontamination

Preventing and controlling the growth and spread of disease in a salon or spa involves choosing appropriate methods of decontamination. These methods include three steps, with different methods required for different materials; skin, towels/linens, equipment, and tools:

1. Sanitization: Cleaning with soap or detergent and water to remove all dirt, debris, and potential disease-causing germs from tools, implements, and equipment . In some cases this includes using 70% alcohol for cleaning surfaces (ie: tables, treatment beds, etc). This step only removes some bacteria.
2. Disinfecting: using specific EPA approved chemicals intended to destroy most harmful organisms on environmental surfaces.
3. Sterilization: The process of completely destroying all microbial life on equipment and tools, commonly achieved through the use of heat and/or pressure.

IV. Decontamination Methods

A. Hand/Skin Sanitizing

Cleansing with soap and water is the most effective way to remove bacteria from hands and skin before and after each service. Antiseptics in the form of hand sanitizers can provide additional antimicrobial protection when applied to the skin. However, hand sanitizers are not intended and are not effective for disinfecting instruments or other surfaces.

See CDC free online Hand Hygiene Course www.cdc.gov/handhygiene/training/interactiveEducation indicating that hand hygiene (handwashing with soap and water or use of an alcohol-based hand sanitizer) should be done before and after client contact and after contact with the immediate treatment or service environment.

The following are types of Personal protective equipment (PPE) to be used when exposure to blood, body fluids, excretions, secretions (except sweat), mucous membranes, or non-intact skin is anticipated:

- Gloves – when hand contamination is anticipated.
- Masks and eye protection – when splashes may occur.
- Gowns – when soiling of clothes may occur.

To avoid contamination from blooborne pathogens and fungi, workers must always wear gloves when contact with any blood or bodily fluid is likely. The gloves must be changed immediately prior to contact with mucous membranes and nonintact skin.

B. Sanitizing: Porous Materials

Porous materials are those that have pores or openings causing them to be absorbent. These include towels, chamois, and linens. These may be safely cleaned, disinfected, and used again. However if they have come into contact with broken skin, blood, body fluid, or unhealthy skin or nails, they must be discarded immediately.

Items such as cotton tips, balls and rounds, sponges, gauze, tissues, and paper towels cannot be cleaned to remove all visible residue so they must never be reused.
Non-porous materials require disinfecting (see D. below).

C. Cleaning and Disinfecting

Bacteria can survive for days on patient care equipment and other surfaces. This is why there are different types of cleaning and disinfecting procedures for different types of organisms, as well as for different cosmetology services. Some generalized recommendations concerning managing potential contact with different types of bacteria and pathogens are:

- For parasites such as lice, contaminated countertops, tools, and equipment should be thoroughly cleaned and then disinfected with an EPA-registered disinfectant (per the manufacturer's recommendations) or a bleach solution for 10 minutes.
- Bacterial and fungal infections will spread unless all implements, surfaces, towels, and everything that touches the client is properly cleaned and disinfected before reuse or is thrown away after use.

Disinfecting uses chemicals to remove microorganisms found on non-living objects. Disinfectants are formulated to remove infection causing bacteria (but not spores) or sanitize tools, equipment, or environmental surfaces. The effectiveness depends upon the strength and proper application of the product(s). Only certain products are appropriate for salon use. It is important to know what these products are, and how to use them safely.

D. Disinfecting: Non-Porous Materials

Disinfecting involves using chemicals that include different types of ingredients including bleach, forms of formaldehyde, and ammonium. These are not considered safe for application on the skin and/or exposure to the eyes. Therefore, workers should always wear gloves and safety glasses when mixing disinfectants. Some should be used in diluted form to immerse tools and implements. Others can be applied directly on pre-cleaned nonporous surfaces. The product label should clearly state instructions for the safest and most effective uses.

Nonporous materials have a hard surface and are reusable so long as they are properly cleaned and disinfected. These include comedone extractors, metal diamond tips on microdermabrasion devices, and tweezers.

E. Sterilization

Sterilization is the highest level of decontamination because it destroys spore-forming bacteria, rather than simply removing it. A common means of sterilizing salon tools is the Autoclave, a piece of equipment that uses steam under pressure to penetrate and kill disease-causing bacteria. This requires proper training and regular maintenance including weekly checks to ensure that it is reaching the required temperature for killing microorganisms. Incorrect temperatures may create a warm, moist place where pathogenic organisms can grow and thrive.

ADDENDUM (Sanitization and Sterilization)

Per the Florida Administrative Code (Last Updated: April 2, 2019), **61.; 61G5. Board of Cosmetology; 61G5-20. Cosmetology Salons; 61G5-20.002,** each salon shall comply with the following:

(a) Linens: Each salon shall keep clean linens in a closed, dustproof cabinet. All soiled linens must be kept in a closed receptacle. Soiled linens may be kept in open containers if entirely separated from the area in which cosmetology services are rendered to the public. A sanitary towel or neck strip shall be placed around the patron's neck to avoid direct contact of the shampoo cape with a patron's skin.

(b) Containers: Salons must use containers for waving lotions and other preparations of such type as will prevent contamination of the unused portion. All creams shall be removed from containers by spatulas.

(c) Disinfection: 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.

(d) Disinfectants: All salons shall be equipped with and utilize disinfecting solutions with hospital level disinfectant or EPA approved disinfectant, sufficient to allow for disinfecting practices.

1. A wet disinfection container is any receptacle containing a disinfectant solution and large enough to allow for a complete immersion of the articles. A cover shall be provided.

2. Disinfecting methods which are effective and approved for salons: First, clean articles with soap and water, completely immerse in a chemical solution that is hospital level or EPA approved disinfectant as follows:

a. Combs and brushes, remove hair first and immerse in hospital level or EPA approved disinfectant;
b. Metallic instrument, immerse in hospital level for EPA approved disinfectant;
c. Instruments with cutting edge, wipe with a hospital level or EPA approved disinfectant; or
d. Implements may be immersed in a hospital level or EPA approved disinfectant solution.
e. Shampoo bowls, facial beds, and neck rests, clean and disinfect between each use.

3. For purposes of this rule, a "hospital level disinfectant or EPA approved disinfectant" shall mean the following:

a. For all combs, brushes, metallic instruments, instruments with a cutting edge, and implements that have not come into contact with blood or body fluids, a disinfectant that indicates on its label that it has been registered with the EPA as a hospital grade bacterial, virucidal and fungicidal disinfectant;

b. For all combs, brushes, metallic instruments with a cutting edge, and implements that have come into contact with blood or body fluids, a disinfectant that indicates on its label that it has been registered with the EPA as a disinfectant, in accordance with 29 C.F.R. 1910.1030.

4. All disinfectants shall be mixed and used according to the manufacturer's directions.

(e) After cleaning and disinfecting, articles shall be stored in a clean, closed cabinet or container until used. Undisinfected articles such as pens, pencils, money, paper, mail, etc., shall not be kept in the same container or cabinet. For the purpose of recharging, rechargeable clippers may be stored in an area other than in a closed cabinet or container, provided such area is clean and provided the cutting edges of such clippers have been disinfected.

(f) Ultra Violet Irradiation may be used to store articles and instruments after they have been cleansed and disinfected.

(g) Pedicure Equipment Disinfection:

The following cleaning and disinfection procedures must be used for any pedicure equipment that holds water, including sinks, bowls, basins, pipe-less spas, and whirlpool spas:

1. After each client, all pedicure units must be cleaned with a low-foaming soap or detergent with water to remove all visible debris, then disinfected with an EPA registered hospital grade bactericidal, fungicidal, virucidal, and pseudomonacidal disinfectant used according to manufacturers' instructions for at least ten (10) minutes. If the pipe-free foot spa has a foot plate, it should be removed and the area beneath it cleaned, rinsed, and wiped dry.

2. At the end of each day of use, the following procedures shall be used:

   a. All filter screens in whirlpool pedicure spas or basins for all types of foot spas must be disinfected. All visible debris in the screen and the inlet must be removed and cleaned with a low-foaming soap or detergent and water. For pipe-free systems, the jet components or foot plate must be removed and cleaned and any debris removed. The screen, jet, or foot plate must be completely immersed in an EPA registered, hospital grade bactericidal, fungicidal, virucidal, and pseudomonacidal disinfectant that is used according to manufacturer's instructions. The screen, jet, or foot plate must be replaced after disinfection is completed and the system is flushed with warm water and low-foaming soap for 5 minutes, rinsed, and drained.

   b. After the above procedures are completed, the basin should be filled with clean water and the correct amount of EPA registered disinfectant. The solution must be circulated through foot spa system for 10 minutes and the unit then turned off. The solution should remain in the basin for at least 6 to 10 hours. Before using the equipment again, the basin system must be drained and flushed with clean water.

3. Once each week, subsequent to completing the required end-of-day cleaning procedures, the basin must be filled with a solution of water containing one teaspoon of 5.25% bleach for each gallon of water. The solution must be circulated through the spa system for 5 to 10 minutes and then the solution must sit in the basin for at least 6 hours. Before use, the system must be drained and flushed.
4. A record or log book containing the dates and times of all pedicure cleaning and disinfection procedures must be documented and kept in the pedicure area by the salon and made available for review upon request by a consumer or a Department inspector.

CHEMICAL MAKEUP OF HAIR, SKIN, AND NAILS

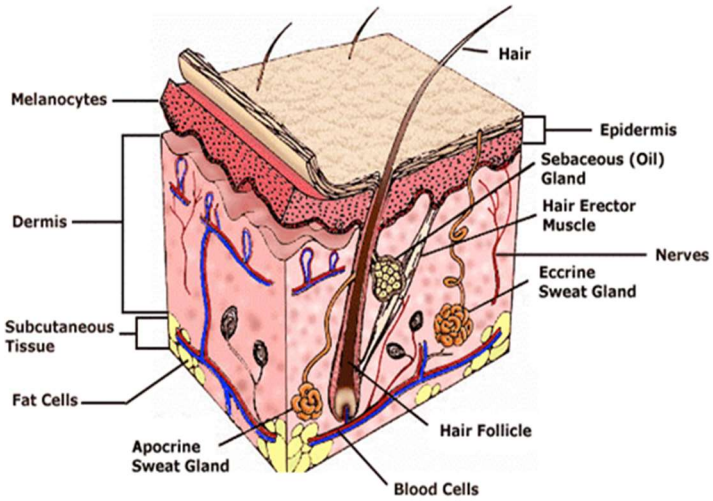
(1Hour)

I. The Skin

The skin is the largest organ of the body. It serves many functions including:

- Protecting the body from foreign substances and UV rays
- Excreting waste products
- providing sensation
- Regulating body temperature
- Reserving blood
- Supporting underlying body tissues.

The skin's thickness can vary from 1/32 of an inch to 1/8 of an inch on different areas of the body. On average, the skin is thinnest on the eyelids and thickest on the palms of the hands and the soles of the feet. The dermis consists of two layers: the papillary layer and the reticular layer.



Epidermis and the Dermis: The epidermis is the surface layer of the skin as well as the protective covering of the body. The epidermis consists of cells that take part in defense against disease. These cells are divided into four types:

- Keratinocytes (about 90% of epidermal cells- produce the protein, Keratin)
- Melanocytes (about 5% of epidermal cells- synthesize melanin)
- Merkel's cells (less than 1% of epidermal cells- nerve endings)
- Langerhans' cells (about 2-3% of epidermal cells- star shaped cells).

Conditions of the Skin

- Comedones, also referred to as blackheads, are hardened plugs of oily material and dead cells retained in the pore. Similar to a whitehead, the main difference between the two is that the contents of blackheads are trapped higher in the pore, exposing the congested contents to the air, causing it to darken.
- Milia, also referred to as whiteheads, are a retention type of cyst in which excretions of the follicle and sebaceous glands are trapped beneath the epidermis.
- Acne is a chronic inflammatory condition of the skin that may appear on the face, back, and chest. This is one of the most common conditions of the skin.
- Seborrhea is an oily condition of the nose, forehead or scalp caused by over-active sebaceous glands.
- Asteatosis is a dry, scaly condition of the skin caused by a deficiency of sebum.
- Chloasma is an irregularity in pigment in various areas of the skin. It often follows a pregnancy.
- A keloid is an elevated fibrous hypertrophy developing at the site of the external trauma of the skin. As a reaction to injury, the keloid is a permanent lesion occurring only in those who have a congenital predisposition to this condition. African Americans are generally prone to keloids.
- A wart, or verruca, is a skin tumor often caused by a virus.
- A mole is a small congenital macule ranging in color from brown to bluish black.

- Impetigo is a common skin infection (affecting mostly children), caused by Staph. Signs may be scabby, yellow-crusted sores and/or small blisters filled with yellow fluid. Impetigo can occur anywhere on the body, but most commonly occurs on the arms, legs, and face.

Precautions for certain skin conditions

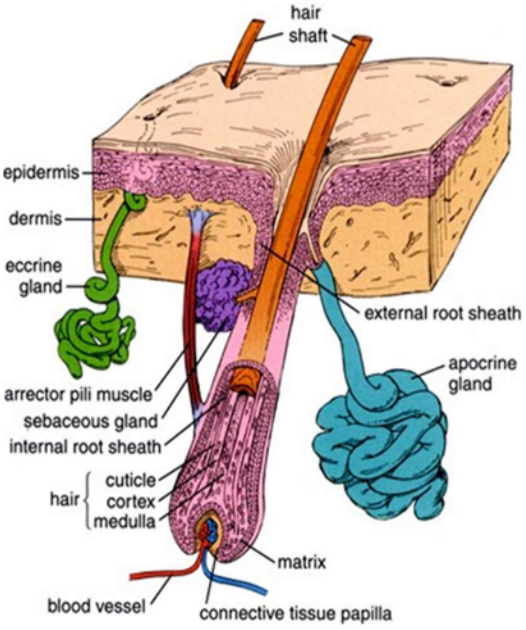
A Facialist spends many hours in skin-to-skin contact. It is best professional practice to become familiar with certain common skin disorders. However, cosmetologists should not attempt to provide treatment or medical advice. If a harmful condition is suspected, it is appropriate to suggest that a client get a qualified medical opinion regarding the pre-existing condition. This is particularly true for Impetigo which often affects normal skin but may follow an injury or a condition that causes a break in the skin, such as a fungal infection, sunburn, or an insect bite. Poor hygiene and a moist environment are also risk factors. Impetigo is very contagious to other areas of the person's skin and to other people, and extensive scratching serves to spread the infection.

II. The Hair

Hair is an outgrowth of skin, but has no sense of feeling due to lack of nerve endings. Hair is made up of keratin, sulfur, carbon, hydrogen, oxygen, and nitrogen. Hair follicles extend into the dermis layer of the skin, and protect the body from ultraviolet rays, foreign particles, and heat loss. The hair itself is protected by inner and outer root sheaths which constitute the follicle wall or structure itself.

Hair Layers

The layers of the hair are as follows (inside out):



The medulla; the core of the hair which provides wave or curl. Someone with a lack of medulla cells is more likely to have fine hair.

The cortex***;*** an inner layer of round cells that gives hair its color, strength, and durability. This layer is made up of many parallel, twisted fibers of hard keratin.

The cuticle; the outside layer, composed of scale like cells. Chemicals, such as straightening relaxers, hair colors, and perms, raise these scales so that solutions can enter.

There are two divisions of hair: vellus and terminal. ***Vellus hairs*** are an appendage of the sebaceous glands, receiving nourishment from the gland itself. ***Terminal air*** is that which terminates, or connects, to a dermal papilla.

Three major physiological changes that take place during a woman's life can cause hair growth: puberty, pregnancy and menopause. Three causes for excessive hair growth:

- Congenital growth is the genetically predetermined pattern of hair growth which a person is born with.
- Topical growth is caused by any topical stimulation that increases the blood supply and is capable of causing mild to moderate acceleration of hair growth.
- Systemic growth is caused by the distribution of certain hormones within the body's complex system which are capable of stirring germative cells to life or accelerating current hair growth.

Tinea capitis
(Ringworm of the scalp)

Conditions of the Hair and Scalp

- Hypertrichosis is an abnormal growth of hair on any part

of the body which is more than that usually seen in individuals of the same sex, age, and race.

- Tinea capitis is a fungal infection of the scalp. Symptoms may include itching in the area, small black dots on the scalp, areas which appear bald due to hair that has broken off, lesions filled with pus on the area, or scaly inflamed lesions on the scalp. The most common form of treatment for this condition is oral medication.

The Nails

The nail mostly consists of protein made from amino acids. However, the nail itself is made up of sulfur, carbon, hydrogen, oxygen, nitrogen, and iron. Sulfur gives the nail its strength.

The cuticle is the skinfold over the nail bed. The lunula, thought to be immature keratin of the growing nail, is a white crescent shaped region at the base of the nail plate. The nails forms when Keratinocytes in the nail bed proliferate, grow, synthesize hard keratin, dye, and form the matrix of the nail.

Conditions of the Nail

There are several problems one might face with nail care, but the most common is a fungal infection. This occurs when fungi infect one or more of your nails. The early stages of funnel infections of the nail are white or yellow spot(s) under the tip of your fingernail or toenail. When the fungus begins to spread deeper into your nail, it may cause your nail to discolor, thicken and develop crumbling edges. This can cause severe discomfort and an unappealing cosmetic appearance. Fungal infections can be difficult to treat, and it is common to have repeated outbreaks in the same area. In order to treat nail fungus, your client may need an over-the-counter antifungal ointments or oral prescription from their doctor.

MMA – Methyl Methacrylate Liquid Monomers

MMA has been used as an ingredient in professional nail products, also referred to as "porcelain nails." There is currently a ban on these products, imposed by the FDA and the Florida Administrative Code (section 477.0265 (1)(g)) due to many complaints from regarding reactions from a simple skin allergy to complete loss of the nail, as well as studies indicating that long term exposure to the nail technician or client can result in permanent damage to the respiratory system and liver. Any product containing a trace of MMA is completely prohibited in the state of Florida.

pH of the Hair, Skin, and Nails

pH is a unit of measurement for the amount of acid or alkali in water-based solutions. The scale of pH ranges from 0-14 and is measured in increments of 10. The average pH of hair, skin, and nails is five (5), whereas seven (7) is neutral.

The average pH is not of the hair, skin, and nails itself, but of the protective layer of oily secretions that coats and lubricates the surface of the hair, skin, and nails, also referred to as our **acid mantle**. The scalp's oils are what keeps hair shiny and nourished. The reason that it is common to see ends of the hair dull and less shiny than the roots is because the acid mantle only reaches so far and does not necessarily reach all the way to the ends. In general, products with a pH of about 4.5 –5.5 are **acid- balanced** products, and maintain a closely compatible environment with that of our natural acid mantle.

When high pH products come into contact with the hair, the solution is absorbed through the cuticle layer into the cortex layer of the hair. This imbalance of pH causes the hair to swell, which forces the cuticle layers to be stretched. This puts the hair into an unnatural state and more than likely causes breakage. Therefore, shampoos, conditioners, hair colors, and tints all should work with the right amount of pH and other ingredients in order to be the most effective.

pH Value	Times acidity or alkalinity exceeds that of pu water (7.0)
Acidic 0	10,000,000
1	1,000,000
2	100,000
3	10,000
4	1,000
5	100
6	10
Neutral 7	1
8	10
9	100
10	1,000
11	10,000
12	100,000
13	1,000,000
Alkaline 14	10,000,000

Environmental Issues/ Indoor Air Quality

(1 Hour)

Learning Objectives:

- Introduction to indoor air quality
    - Learn the sources of indoor air problems
    - Understand how indoor air pollution can affect your health
- Air Quality Control Systems

I. INTRODUCTION TO INDOOR AIR QUALITY

Indoor air quality can significantly impact the health of building occupants in any business. Pollutants indoors, especially in cosmetological facilities, can increase the risk of illness. Even the cleanest and well- ventilated buildings can experience episodes of poor indoor air quality.

Sources of Indoor Air Problems

The most common cause of indoor air quality issues are poor ventilation and poorly regulated air temperature and humidity levels. Building materials, furnishings, cleaning products such as air fresheners, and chemicals used in nail, hair, skin/beauty services all release particles or gases into the air.

The most common ways in which these pollutants are released into the air include:

- Building maintenance activities
- Renovation/remodeling
- Pest control
- Everyday cleaning
- Laundering operations
- Manicuring, pedicuring, hair, and spa services

These activities bring dust, odors, and release bacteria in the air. If not properly controlled the environment can become contaminated with to mold and mildew, leading to or exacerbating health problems for all salon occupants (workers and clients).

How Indoor Air Pollution Can Affect Your Health

Health effects from indoor air pollutants might be directly after or quite some time after exposure. Due to the fact that the human body is very complex and varies from person to person, some people react differently when exposed to the same contaminants at similar concentrations.

- **Immediate** side effects may arise after only one exposure or several exposures. These include irritation of the eyes, nose, and throat, dizziness, and/or headaches. Some direct side effects are similar to those from a cold, so it is often difficult to determine if the symptoms are a result of exposure to indoor air pollution. If these symptoms appear while at work and disappear once leaving, it is easy to determine that it is a result of indoor air pollution. Immediate side effects

are generally **short-term** and may be as easily treated as simply cutting off any exposure to the pollution.

- Some **long-term** effects can be as serious as heart disease, respiratory problems, and cancer.

Many different factors influence how indoor air pollutants impact occupants. There are several air pollutants, such as **radon**, that are of great concern because exposure to high levels over long periods of time increase the risk of life threatening illnesses, such as lung cancer. Other contaminants can cause death within minutes, such as carbon monoxide.

II. AIR QUALITY CONTROL SYSTEMS (OSHA Definitions 1910: https://www.osha.gov/laws-regs/regulations/standardnumber/1910/1910.94)

The following are recommendations for improving indoor air quality, excerpted from the Rosy Salon Software blog, "Air Quality & Climate Control for Salons & Spas," December 10, 2018 (https://www.rosysalonsoftware.com/air-quality-climate-control-for-salons-spas):

Ventilation

The process of exchanging or replacing air; ventilation provides high indoor air quality through temperature control, oxygen replenishment, and removal of moisture, heat, odors, airborne bacteria, smoke, dust, carbon dioxide, and other gases. Ventilation also introduces outside air, keeps the interior air circulating, and prevents it from becoming stagnant. Ventilation is one of the most critical factors for maintaining acceptable indoor air quality in buildings of any size. Not every salon needs the same size and type of system.

Source Capture System

According to the Professional Beauty Association (PBA), source capture systems are the most effective way to remove salon dust and vapors from the air. This is particularly true important for nail salons. The PBA publication, *"Safety Guidelines for Controlling and Minimizing Inhalation Exposure to Nail Products*", as well as OSHA provide guidelines on the most effective ways to set up and maintain such systems. (https://www.osha.gov/SLTC/nailsalons/chemicalhazards.html).

Air Purifiers

A standalone air purifier designed for a salon or spa can provide fresh air and remove much of the orders, fumes, and airborne particles not removed by the source capture system. These air cleaners are usually outfitted with HEPA (High Energy Particulate Air Filters) to remove vapors and dust in the air near the unit.

Filtering Systems

A multi-stage filtration system contains layers of filters. A pre-filter removes large particles, and a HEPA filter or an electronically enhanced filter (E-HEPA filter) removes smaller particles. The third filter should be an activated carbon filter to rid the smallest particles. There are also special HVAC filters designed with replaceable activated carbon panels and electrostatic dust filtering material to remove residual salon vapor and dust not captured by a source capture system or by a room air purifier.

Heating

Central heating uses a furnace, boiler or heat pump to heat water, steam or air in a centralized location like a furnace room or a mechanical room. From there, the heat is transferred utilizing convection, conduction, or radiation to keep your facility warm. The best type of heating depends on its location, size, configuration, and need based on outside temperatures and the number of people inside.

Air Conditioning

An air conditioner or air conditioning system provides cooling and humidity control for all or part of a building. Cooling is the transfer of heat energy utilizing radiation, conduction or convection. Air conditioning systems move heat from indoors to outdoors using a closed loop of pipes to circulate a refrigerant.

The best type and size of air conditioning unit or system depends on its location, size, configuration, and amount of heat emitted from warm bodies, equipment, and various thermal appliances. An undersized system will not provide sufficient cooling when needed while an oversized air conditioner will often cause issues with humidity. A system that is too powerful will tend to cycle on and off more often and not remain on long enough to remove moisture from the air. Controlling humidity in a salon or spa is critical. High humidity can serve as a breeding ground for contaminants including mold, mildew, and bacteria. If different pollutants are circulating through your salon or spa, people sensitive to irritants may begin to experience allergic reactions and could develop other illnesses. Inadequate ventilation can also cause excess humidity.

Improved HVAC energy efficiency can help improve the health and productivity of the occupants of the building or space.

Dehumidification

A dehumidifier is an air-conditioner or air-conditioner-like device that controls the humidity inside of a facility. An evaporator provides dehumidification or air drying in an air conditioning system. Moisture that lingers in the air condenses on the evaporator coil tubes, is collected at the bottom in a pan, and then removed into a central drain or onto the ground outside.

Because an air conditioning system moves heat between the indoor and outdoor coils, it's important to keep both clean. In addition to replacing the evaporator coil air filter, it's also necessary to clean the condenser coil on a regular basis. Failure to keep the condenser clean may harm the compressor.

Occupational Safety and Health Administration Regulations

(.5 Hours)

- Introduction to OSHA
- Understand the elements of an effective Safety and Health Management System (SHMS)
- Safety Health Management Systems Checklist
- Become familiar with OSHA resources to assist employers with SHMS
- Learn how to take advantage of free OSHA assistance
- Understand how to plan and respond to workplace emergencies

The U.S. Occupational Safety and Health Administration (OSHA) is an agency of the U.S. Department of Labor. OSHA's mission "to assure safe and healthful working conditions for working men and women by setting and enforcing standards and by providing training, outreach, education and assistance." Its regulations cover most private sector employers and their workers in the 50 states and certain territories and jurisdictions under federal authority and are enforceable under the law.

OSHA Salon Standards

OSHA issues regulations (standards) to protect the health of owners, workers, and clients, and prevent work-related injuries, illnesses, and deaths. OSHA's particular concerns in the beauty industry (including hair and nail salons and spas) include:

1. Guarding against bloodborne pathogens
2. Monitoring chemicals and other potentially hazardous materials in salon products
3. Providing standards regarding air quality when using hazardous materials.

OSHA produces specific guides for different industries. In terms of cosmetology, OSHA requires product manufacturers to provide salon owners with "**Safety Data Sheets" (SDS)** (formerly called Material Safety Data Sheets) for the products they buy that contain hazardous chemicals. Employers must make SDSs available to workers and train them to understand the chemicals' potential hazards and how to use the products safely. In general, an SDS must provide the following information:

- Hazardous ingredients in the product
- How you can be exposed to the ingredient(s)
- Health and safety risks you face when using the product
- Steps for safely using and storing the product, including what to do in emergencies.

SDS present information in a common format across products to easily differentiate hazards between products.

OSHA Resources

Check OSHA's website and SDS frequently, as OSHA issues hazard communications standards when new issues arise. OSHA has four offices in Florida—Tampa, Ft. Lauderdale, Orlando, and Jacksonville—that cover private sector workers in the state. Learn more about OSHA Hazard Communication standards at https://www.osha.gov/hazcom

Safety and Health Management Systems (SHMS)

OSHA regulates salons and spas by requiring written safety compliance plans, specific to every company and location addressing the safety standards for their industry. To help comply with OSHA standards, many salons set up Safety and Health Management Systems (SHMS). SHMS are highly effective in reducing the extent and severity of work---related injuries and illnesses and related costs. The critical elements of an effective SHMS are delineated in this checklist:

Safety and Health Management Systems Checklist

Management Commitment and Employee Involvement

- Develop and communicate a safety and health policy to all employees.
- Demonstrate management commitment by instilling accountability for safety and health, obeying safety rules and reviewing accident reports.
- Conduct regular safety and health meetings involving employees, managers and supervisors.
- Assign responsible person(s) to coordinate safety and health activities.
- Integrate safety and health into business practices (e.g., purchases, contracts, design and development).
- Involve employees in safety and activities (e.g., self-inspections, accident investigations and developing safe practices).
- Recognize employees for safe and healthful work practices.

Worksite Analysis

- Evaluate all workplace activities and processes for hazards.
- Reevaluate workplace activities when there are changes in: Processes, Materials, Machinery
- Conduct on-site inspections, identify hazards and take corrective actions.
- Provide a hazard reporting system for employees to report unsafe and unhealthful conditions.
- Investigate all accidents and near misses to determine their root causes.

Hazard Prevention and Control

- Eliminate and control workplace hazards workstation design and work practices.
- Establish a preventive maintenance program. Keep employees informed of safety and health activities and conditions.

- Plan for emergencies
- Record and analyze occupational injuries and illnesses.

Training for Employees, Supervisors and Managers (**OSHA standard 1910)**
https://www.osha.gov/laws-regs/regulations/standardnumber/1910/1910.119

- Provide training on specific safe work practices before an employee begins work.
- Provide additional training for new work processes and when accidents and near misses occur. Provide refresher training on a routine basis. See

Employers who work with hazardous chemicals should be familiar with processes and procedures in this guide. https://www.osha.gov/sites/default/files/publications/OSHA3695.pdf

Workplace Emergencies

At a minimum, every salon and spa should have the following equipment and procedures in place:

- Current emergency contact information posted in a known central location
- Clearly marked emergency exits
- Fire extinguishers accessible to all employees
- Annual fire drills
- A first-aid kit containing small bandages, gauze, antiseptic, and a blood-spill kit that contains disposable bags, gloves, and hazardous waste stickers
- Eye-flushing stations (required by OSHA for every business using chemicals).

All workers should have basic first-aid knowledge and some should have additional training in using fire extinguishers, dressing burns, applying pressure to bleeding wounds.

Additional information about use and storage of hazardous chemicals can be found in at

Workers' Compensation

(.5 Hours)

- Introduction to Workers' Compensation
- Understand the Workers' Compensation Policy
- Learn where to find updated information and calculate benefits

What is Workers' Compensation?

Workers' compensation is a Federal government program, administered by the U.S. Department of Labor, Office of Workers' Compensation Programs (OWCP). The OWCP oversees four major disability compensation programs which provide the following supports to federal workers (or their dependents) who are injured at work or acquire an occupational disease:

- Wage replacement benefits
- Medical treatment
- Vocational rehabilitation
- Other benefits

Individuals injured on the job while employed by private companies are entitled to receive the same protections, administered by state boards.

State of Florida Workers Compensation

The Florida workers' compensation law requires employers in the state to carry insurance in order to provide medical benefits and a fixed amount of indemnity (wage replacement) benefits to their employees that get injured during the course and scope of employment. The worker's compensation law requires that injured employee(s) agree to give up his/her right to sue the employer if they receive benefits for the injury.

Florida's Workers' Compensation requirements and issues are managed by the state Department of Financial Services. Find information at My Florida CFO: https://www.myfloridacfo.com/division/wc/employer/coverage-requirements

- Proof of Coverage
- Exemption Information
- WC System Guide
- Coverage Assistance
- Benefit Calculators

- Report Suspected Non-Compliance

All Florida employers (with the exception of those in the construction industry) are required to obtain a Florida policy through a Florida-licensed insurance company once it has 4 or more employees working in Florida.

Additional information for non-construction employers and workers can be found in Section 440.10(1)(g), Florida Statutes and 69L-6.019 Florida Administrative Code.

The Workers' Compensation Policy: A policy for workers' compensation insurance is typically divided into four parts. The fourth includes two important sub-sections.

1. Defines the workers' compensation coverage that is offered in the policy
2. Defines the employer's liability coverage offered in the policy, which provides liability coverage to protect the insured for the possibility of a lawsuit that results from an employee injury.
3. Defines the coverage provided in other states where business was not conducted during the policy period, but develops during the policy year.
4. Covers the insured's duties in the event of an injury
    a. Explains the injury rating procedure
    b. Specifies the conditions that apply to the policy.

Preventing and Controlling Claims:

As a business owner, it is very important to have a safe work environment and train employees on ways to prevent workplace injuries. This will not only protect your workers, but also keep your costs down by lowering your worker's compensation premium. Many insurance companies have dividend packages available for large businesses as a reward for preventing and controlling claims.

During a claim it is also important that your insurance is with a company that will handle your claim properly by treating your employee with respect and allow them to quickly return to work.

Rates and Premium Calculations:

Employee or Independent Contractor? The premium paid for a workers' compensation policy is based on your business' employee payroll. An ***employee*** (Cengage Learning, Successful Salon & Spa Management, 2012 Milady) is "anyone who is hired to provide services to a company on a regular basis in exchange for compensation, and who does not provide these services as part of an independent business." Workers who are not employees are considered ***independent contractors***. They are legally required to carry their own insurance, and therefore are not counted for workers compensation. The Florida Workers' Compensation Act specifically excludes the obligation of an employer to provide coverage for independent contractors. (CJ Smith Law, Florida Workers Compensation blog).

The premium is calculated by multiplying the payroll in each classification code by the current rate established by the state government. There are then many other credits and fees that are applied before you receive the estimated annual payroll. Each policy will also be audited to determine the actual payroll during the policy period and adjustments will be made to the premium.

SKIN CARE PRODUCTS BASICS
(1 Hour)

Components of Skin Care Products

The basis of most skincare products are oil and water. Oils such as **mineral oil** and **petrolatum** come from the earth and offer excellent protection against dehydration. They don't react with other chemicals in the skin's function. Most of the other oils used in skincare products come from plants and can be used for their fatty content or their fragrances.

A. Emollients

Emollients are combinations of oils or fats that lubricate and moisturize the skin. They help spread other ingredients in a product across the skin and hold them in place. As performance ingredients they lubricate the skin's surface and trap water. Oils combined with water and blended with different emollients can be made into creams, lotions, or fluids

B. Emulsions

Emulsions are mixtures of two or more liquids which are dispersed into one another. They tend to separate over time, but when stored correctly, they should be stable for up to three years. If they do separate before then, they have likely become unstable and should be discarded.

1. **Moisturizers and creams**

These are emulsions that can be formulated as **oil-in-water** or **water-in-oil**. In different concentrations, and with the addition of other ingredients, they can be used for oily as well as dry or mature skin. Their primary purpose is to attract water to the skin's surface and lock it there, reducing dehydration.

a. Common **oil-in-water emulsions** are usually milky, free-flowing liquids such as moisturizing and cleansing lotions. Thickeners may be added to form gels or thick creams. Skin moisturizers are emulsions that apply a uniform layer of oil on the surface of the skin. That oil acts as an external lubricant to smooth and protect the surface of the epidermis. The water acts as an internal lubricant. Water-based moisturizers formulated to be absorbed quickly leave no residue on the skin's surface. They are for combination or oily skin.

b. Common **water-in-oil emulsions** are heavier, greasier, and more water resistant because the oil is in the external phase. These emulsions are used to remove grime and prevent water loss from the skin. Examples include cleansing creams, cold creams, night creams, massage creams, baby creams, suntan lotions, and hair-grooming creams. Oil-based moisturizers contain emollients and are heavy and occlusive, designed to protect the surface of the skin and trap water under the cream.

C. Humectants and Hydrators (hydrophilic agents)

Most moisturizing products are combinations of emulsions and humectants. Humectants are an additional ingredient that can attract water to the skin and reduce dehydration. Examples include glycerin, sodium PCA, sorbitol, seaweed extracts, algae extract, hyaluronic acid, and propylene glycol.

a. **Hyaluronic Acid (HA)** HA is a Humectant that performs well consistently to help keep the skin hydrated naturally, but the body's ability to produce it diminishes with age. Applying it topically or ingesting it can produce significant benefits. HA comes from non-animal sources using biotechnology and biofermentation. It is available in various sized molecules, which helps it get absorbed deeper into the skin where it is most effective.

D. Solutions

Solutions are made from one substance that is dissolved by another. They contain particles that are invisible to the naked eye, and they do not separate on standing. They are usually transparent but can be colored. Examples are salt water and hydrogen peroxide. Water dissolves the salt and holds it in solution.

E. **Suspensions**

Suspensions differ from solutions because they contain larger particles that are visible to the naked eye, and they may separate over time. In cosmetics, aerosol hairspray is an example of a suspension.

F. Surfactants

There are two types of surfactants used in cosmetic products: **Detergents and Emulsifiers**. **Detergents** reduce the surface tension of dirt and oil on the skin's surface and form an emulsion to lift them from the skin. Detergents that are too strong can remove too much sebum and damage the lipid barrier function of the skin. Detergents are not cleansers by themselves. In order for a detergent to be a cleanser, it should be mixed with soap.

G. Gels and Thickeners

Gels from when certain ingredients are added to help thicken products or suspend ingredients that are hard to mix together.

H. Fragrances

These can come from plant, animal, or synthetic sources. The most common are essential oils, or highly concentrated plant oils with properties that can have various effects on the skin.

I. Preservatives

These are mixtures of ingredients that prevent bacteria and other microorganisms from living in a product. Some examples are **chelating agents** – chemicals that are added to cosmetic products to help break down the cell walls of bacteria. Recognizable chelating agents include several forms of **EDTA** (ethylene-diamine-tetra-acetic acid). EDTA is generally used only in small quantities.

J. Antioxidants

Antioxidants combat aging. They can be vitamins, amino acids, and other natural substances that help skin cope with damaging environmental influences and can be applied both topically and orally. They help prevent wrinkles, promote skin healing and reduce the formation of scar tissue. Common antioxidants in skin care products are vitamins A, C, and E. They interfere with inflammation, thus reducing the production of enzymes that injure and destroy skin cells. These include:

1. Retin-A®

A natural form of vitamin A that stimulates cell repair and helps to normalize skin cells by generating new cells. It may be used in serums, creams, and lotions in various concentrations. In high concentrations it is approved as an active drug ingredient, often for treating acne, sun-damaged skin, and wrinkles. It can be irritating to sensitive skin. It can also act as an exfoliant. It is important that use of this product be discussed with any client prior to providing a service where this is a known product ingredient.

2. Vitamin C

This is a water-soluble antioxidant that strengthens the white blood cells and immune system and is essential for producing collagen.

3. Coenzyme Q10

This is usually formulated with other natural protective ingredients to strengthen the capillary network and increase energy to epidermal cells. It seems to fortify the skin's immune function and activate metabolic functions. It often results in visible reduction of wrinkles and fine lines.

3. DMAE (dimethylaminoethanol)

This antioxidant boosts the effects of other antioxidants. It increases chemicals that control muscle tone and improves the appearance of sagging skin.

K. Lipids

Lipids are fats or fat-like substances that help repair and protect the barrier function of the skin. They improve sking hydration, plumpness, and smoothness.

L. Sunscreens

Sunscreens come in a variety of formulations. There are chemical sunscreens made from organic compounds that absorb ultraviolet radiation. There are also physical sunscreens that rely on inorganic compounds to reflect ultraviolet radiation. They are critical components of facial treatment because sun exposure can lead to premature aging, capillary damage, hyperpigmentation, and collagen and elastin deterioration, in addition to skin cancer.

1. **The Sun Protection Factor (SPF)**

SPF refers to the ability of a product to delay the visible signs of sun damage. SPF is based on UVB (and not UVA) exposure time as well as the sun's intensity, skin type, product application, and other factors. The amount of SPF on the label does not always match the amount of protection due to the addition of chemicals and additives to make the product effective for different factors. It is always important to consult with clients regarding the proper application for their situation.

1. UVB/UVA Ingredients

Sunscreens that protect the skin from UVB	Those that protect from UVA
• octyl salicylate • octyl methoxycinnamate • oxybenzone • octylhomosalate • octocrylene	• oxybenzone • avobenzone • benzophenone-3 • butyl methoxydibenzoylmethane • mexoryl®