Preventing Infections in the Salon Environment
Both federal and state agencies regulate the practice of cosmetology.
Federal Agencies

- Occupational Safety and Health Administration (OSHA)
  - Occupational Safety and Health Act of 1970
    - Hazard Communication Standard (HCS)
      - Material Safety Data Sheet (MSDS)
- Environmental Protection Agency (EPA)

The Occupational Safety and Health Administration (OSHA) was created as part of the U.S. Department of Labor to regulate and enforce safety and health standards to protect employees in the workplace. It also addresses issues relating to the handling, mixing, storing, and disposing of products.

- Occupational Safety and Health Act of 1970 regulates employee exposure to potentially toxic substances and informs them of possible hazards of materials used in the workplace. This regulation created the HCS.
  - Hazard Communication Standard (HCS) requires that chemical manufacturers and importers assess and communicate the potential hazards associated with their products.
    - Material Safety Data Sheets are a result of the HCS. It contains information compiled by the manufacturer about product safety, including the names of hazardous ingredients, safe handling and use procedures, precautions to reduce the risk of accidental harm or overexposure, and flammability warnings.
    - The MSDS also provides useful disposal guidelines and medical and first aid information.

The Environmental Protection Agency (EPA) registers all types of disinfectants sold and used in the United States.

Display several MSDS sheets from chemicals used in the salon for students to see.
State regulatory agencies exist to protect salon professionals and to protect consumers’ health, safety, and welfare while they receive salon services. They also include licensing agencies, state boards of cosmetology, commissions, and health departments.
Infection is the invasion of body tissues by disease causing pathogens.
Careless actions can cause injury or infections and the invasion of body tissues by disease-causing pathogens.

Your actions could result in the loss of your license or ruin the salon’s reputation.
Properly washing your hands is one of the most important actions you can take to prevent spreading germs from one person to another.
Bacteria can exist on skin, in water, in the air, in decayed matter, on environmental surfaces, in body secretions, on clothing or under the free edge of nails.
Nonpathogenic: Helpful or harmless bacteria that perform useful functions such as decomposing refuse and improving soil fertility. They help metabolize food, protect against microorganisms, and stimulate immune response.

Pathogenic: Harmful and disease producing when they invade plant or animal tissue.

Cocci: Round-shaped bacteria that appear singly (alone) or in groups:
- Staphylococci: Pus-forming bacteria that grow in clusters like grapes; cause abscesses, pustules, and boils.
- Streptococci: Pus-forming bacteria arranged in curved lines resembling a string of beads; cause infections such as strep throat and blood poisoning.
- Diplococci: Spherical bacteria that grow in pairs and cause diseases such as pneumonia.

Bacilli: Short, rod-shaped bacteria. They are the most common bacteria and produce diseases such as tetanus (lockjaw), typhoid fever, tuberculosis, and diphtheria.

Spirilla: Spiral or corkscrew-shaped bacteria. They are divided into subgroups: Treponema pallidum, which causes syphilis (a sexually transmitted disease - STD); or Borrelia burgdorferi, which causes Lyme disease.
• A virus is a parasitic submicroscopic particle that infects and resides in the cells of a biological organism; capable of replication only by taking over the host cell’s reproductive function; cannot reproduce without a host cell; hard to kill; antibiotics do not affect them; some vaccines are available.

• A common viral infection often seen in salons is the Human Papilloma Virus (HPV), also known as plantar warts. This virus is difficult to kill and usually infects the bottom of the foot resembling small black dots clustered in groups. HPV is highly contagious and can be passed from pedicure client to pedicure client by dirty implements and foot baths. Refer this client to a physician before performing services.
Disease-causing microorganisms that are carried through the body in the blood or body fluids, such as hepatitis and HIV, are called bloodborne pathogens.

Hepatitis - Disease marked by inflammation of the liver and caused by a bloodborne virus similar to HIV/AIDS in transmission. It is present in the body fluids of an infected individual.

Hepatitis A, B, and C are of concern to a salon.

Human Immunodeficiency Virus (HIV) - the virus that causes AIDS (Acquired Immune Deficiency Syndrome). AIDS breaks down the body’s immune system. Passed through blood and body fluids.
Fungi

- Microscopic plant parasites that include molds, mildews and yeasts
  - Tinea barbae (barber’s itch)
  - Tinea capitis
  - Tinea pedis

Fungi can produce contagious diseases such as ringworm.

- Tinea barbae - a superficial fungal infection that commonly affects the bearded areas of the face, neck, or around the scalp. Most common in older males.
- Tinea capitis - fungal infection of the scalp characterized by red papules, or spots, at the opening of the hair follicles.
- Tinea pedis - ringworm infection of the foot. More common on feet than hands.
Parasites are organisms that grow, feed, and shelter on or in another organism, while contributing nothing to the survival of that organism.

Clients with parasitic infections should not be serviced in the salon. They should be referred to a physician.
Proper decontamination can prevent the spread of disease caused by exposure to potentially infectious materials on an item’s surface.

Decontamination - the removal of blood or other potentially infectious materials on an item’s surface and the removal of visible debris or residue such as dust, hair, and skin.
Decontamination Method #1

- Two step process
  - Cleaning tools
    1. Wash with soap and warm water, then scrub with a clean and disinfected nail brush
    2. Use an ultrasonic unit
    3. Use a cleaning solvent
  - Disinfecting

- When cleaning used implements, you must remove all visible dirt and debris (contaminants) from tools, implements, and equipment by washing with liquid soap and warm water and by using a clean and disinfected nail brush to scrub any grooved or hinged portions of the item.
- Disinfection eliminates MOST, but not all, microorganisms on nonliving surfaces. Disinfectants are not effective on bacterial spores. Disinfectants should have an EPA registered number on the label and directions should be followed on mixing and usage. Remember that disinfectants should not be used on hair, skin, or nails as an allergy can be developed. Disinfection is effective on most reusable items such as combs, shears, nippers, and equipment. Porous or disposable items should be thrown away or given to the client to take home as they cannot be disinfected or reused on another client.
Decontamination Method #2

- Two step process
  - Cleaning tools
  - Sterilizing
    - autoclaves

The cleaning process is the same as decontamination method #1. Sterilization is the process that completely destroys ALL microbial life, including spores. The most effective form of sterilization uses high-pressure steam equipment called an autoclave. Steam alone is not enough. Dirty implements cannot be properly sterilized without being properly cleaned/sanitized first.
• Quats are disinfectants that are very effective when used properly in the salon. They usually disinfect implements in 10 minutes but prolonged exposure can cause dulling or damage to implements. Example of a quat is Barbicide.

• Phenolic disinfectants are powerful tuberculocidal disinfectants. They contain formaldehyde, have a high pH, and cause damage to the skin and eyes. Phenolics are known carcinogens and are not environmentally friendly so they should be treated carefully. They can damage plastic and rubber and can rust certain metals.

• Household bleach, 5.25% (sodium hypochlorite), is an effective disinfectant as well. Using bleach too much can damage metals and plastics. To be effective, the bleach must have an EPA-registration number and diluted properly to a 10% solution-9 parts water to 1 part bleach.

• Fumigants are no longer used in the salon in the state of Texas because they contain formaldehyde and emit a formaldehyde gas.
Choosing a Disinfectant

- Must have efficacy
- Sustainable for at least a week or more
- Inexpensive
- Nontoxic and nonirritating
- EPA approved & environmentally friendly
- No odor & noncorrosive
- Be readily available

Efficacy—the ability to produce an effect; the effectiveness with which a disinfecting solution kills organisms when used according to the label instructions.

The disinfectant solution should:

- Last at least one week or more. It should not have to be changed out daily.
- Should not be expensive so the salon can afford to purchase it regularly.
- Should not be irritating or nontoxic for use.
- Must have an EPA registered number and should be able to be poured down the drain safely so as not to affect the environment.
- Should not have an odor that irritates and should not corrode implements.
- Should be able to be purchased from different manufacturers.

Salons pose a lower infection risk when compared to hospitals. Hospitals must meet much stricter infection control standards and often use disinfectants that are too dangerous for the salon environment.

It is still very important to clean and then disinfect all tools, implements, surfaces, and equipment correctly. When salon implements accidentally contact blood, body fluids, or unhealthy conditions, they should be properly cleaned and then completely immersed in an EPA-registered hospital disinfectant solution that shows effectiveness against HIV, hepatitis, and tuberculosis. Always wear gloves and follow the proper universal precautions protocol for cleaning up and then disinfecting after an exposure incident.
Proper Use of Disinfectants

- Thoroughly clean/sanitize implements before disinfecting
- Completely submerge according to manufacturers time directions
- Use on nonporous surfaces only
- Wear gloves and safety glasses/goggles
- Mix according to directions

Disinfectants can only work if implements are properly cleaned before they are used. Eliminate all visible debris with soap and warm water before using a disinfectant solution.

Most disinfectants require that implements be soaked for 10 minutes. Follow manufacturer’s directions.

Disinfectants are designed for hard, nonporous surfaces only. Do not use on abrasive files or buffers, disposable single use items, or porous items. When disinfecting electrical tools, never immerse the tool in the solution. Use a disinfectant designed to be used with electrical equipment.

Disinfectants should be handled carefully and never come into contact with the skin, eyes, mouth, or nose. Protect yourself while handling disinfectants by wearing gloves and safety glasses/goggles, especially while mixing. Always use tongs or a draining basket, never your hands, to remove implements out of the disinfectant container.

Most disinfectants are “concentrate” which means they must be diluted with water before used. Be sure to follow mixing directions. Always add the disinfectant to water. Never add water to the disinfectant.
Your Professional Responsibility

- Protect yours and your clients' health and safety
- Never take shortcuts for cleaning and disinfecting
- Follow the state and federal laws
- Keep your license current
- Check TDLR website frequently for updates to rules and regulations
Any questions?
References and Resources

Images:
• Microsoft Office Clip Art: Used with permission from Microsoft.

Textbook:

Websites:
• Centers for Disease Control and Prevention (CDC)
  Keeping hands clean is one of the best ways to prevent the spread of infection and illness.
  http://www.cdc.gov/features/handwashing
• Occupational Safety and Health Administration (OSHA)
  Nail Salon Workers: Stay Healthy and Safe While Giving Manicures and Pedicures
  https://www.osha.gov/pls/publications/publication.html
• Texas Department of Licensing and Regulations
  The leader in public service, customer satisfaction, and innovation
  http://www.tdlr.texas.gov/index.htm
• United States Environmental Protection Agency (EPA)
  Guidance from the EPA and the Centers for Disease Control and Prevention (CDC)
  http://www.epa.gov/pesticides/pedicure.htm

Video:
• Put Your Hands Together
  Handwashing may be your single most important act to help stop the spread of infection and stay healthy.
  www.cdc.gov/CDCTV/HandsTogether