

Chapter 5: Infection Control Principles and Practices

Cosmetologists should study and have a thorough understanding of infection control principles and practices because *to be successful in the field of cosmetology, you are required to understand the types of infections you may encounter in a salon; understanding the basics of cleaning and disinfecting and following state and federal rules will safeguard you and your clients; and understanding the chemistry of cleaning and disinfecting products that you use and how to use them will keep you, your clients, and your salon environment safe.*

REGULATION (p. 69-72)

Federal Agencies

- **OSHA** (Occupational Safety and Health Administration)
 - Created as part of the US Department of Labor to regulate and enforce safety and health standards to protect employees in the workplace
- **MSDS** (Material Safety Data Sheet)
 - Contains information compiled by the manufacturer about product safety
 - Names of hazardous ingredients
 - Safe handling and use procedures
 - Precautions to reduce risk of harm
 - Flammability warnings
 - Disposal guidelines
 - Medical and first aid information
 - Fines can be assessed by both OSHA and state boards if MSDSs are not readily available during regular business hours
- **EPA** (Environmental Protection Agency)
 - Registers all types of disinfectants sold in the US
 - **Disinfectants**- chemical products that destroy bacteria, fungi, and viruses (but not spores) on surfaces
 - **Hospital disinfectants**- effective for cleaning blood body fluids; may be used on any **nonporous surface** (cannot absorb liquids); these control the spread of **disease** (an abnormal condition of all or part of the body that makes the body incapable of carrying on normal functions)
 - **Tuberculocidal disinfectants**- kill bacteria that causes tuberculosis (disease transmitted through coughing or sneezing); check state and local rules for usage instructions

You must use disinfectant products according to the labeling instructions. If you do not, you can be held responsible for any damages.

State Regulatory Agencies

- Exist to protect salon professionals and consumers
- Require everyone working a salon to follow specific procedures
- Conduct inspections and can issue penalties

Laws and Rules: What's the Difference?

- **Laws (also called statutes)**- determine the scope of practice (what a license holder is allowed to do)
- **Rules and Regulations**- more specific than laws; determine how the laws must be applied; can be changed or updated frequently so you must stay up-to-date and compliant

PRINCIPLES OF INFECTION (p. 72-82)

Infection- the invasion of body tissue by disease causing pathogens

Infection Control- the methods used to eliminate or reduce the transmission of infectious organisms

- **Infectious disease**- caused by pathogenic (harmful) organisms that enter the body; may or may not be spread from one person to another
- **Clean (cleaning)**- the mechanical (scrubbing) process using soap and water to remove all visible dirt, debris, and many disease-causing germs from tools, implements, and equipment
- **Disinfection**- destroys most but not all harmful organisms on environmental surfaces
 - Salons must use the following types of disinfectants:
 - **Bactericidal**- capable of destroying bacteria
 - **Virucidal**- capable of destroying viruses
 - **Fungicidal**- capable of destroying fungi

BACTERIA

- **Bacteria**- one-celled microorganisms (any organism of microscopic or submicroscopic size) that have both plant and animal characteristics; can exist almost anywhere (on skin, in water, on surfaces, on clothing, under free edge of nails...)
- **Types of Bacteria: nonpathogenic** (harmless; may perform useful functions-used in making cheese, yogurt, medicine; help break down food in the body; stimulate the immune system) and **pathogenic** (causing disease or infection)

Shapes of pathogenic bacteria

- **COCCI (round)**- appear alone or in groups; rarely move on their own-transmitted through the air or on dust
 - **Staphylococci** – puss-forming bacteria that grow in clusters like grapes; cause abscesses, pustules, and boils (*picture* **staphylococci** *hanging like grapes*)
 - **Streptococci**- arranged in curved lines like a string of beads (*think strep throat- neck- necklace-string of beads*)
 - **Diplococci** (spherical)- grow in pairs; cause diseases like pneumonia (*think a dip in two pools can cause pneumonia*)
- **BACILLI (short, rod-shaped bacteria)**- produce things like lockjaw; move using **flagella** (slender, hair-like extensions)
- **SPIRILLA- (spiral or corkscrew-shaped)**- produce things like Lyme disease; move using **flagella** (slender, hair-like extensions- *think the edge of a flag waving on a pole*)

Bacterial Growth and Reproduction

- **Active Stage**- bacteria grow and reproduce; multiply best in dark, damp, dirty places; cells divide in two (binary fission) and create daughter cells; when conditions become unfavorable to thrive, the cells die or become inactive
- **Inactive or Spore-Forming Stage**- some bacteria are coated with wax-like outer shells; helps them survive a long time until conditions are favorable again for growth

Bacterial Infections

- **Inflammation**- condition in which the body reacts to injury, irritation, or infection
- **Pus**- a fluid created by infection
- **Local infection**- confined to a particular part of the body; appears as a lesion containing pus
- **Staph infections**- most common bacteria; responsible for food poisoning, toxic shock, MRSA
- **Communicable disease**- contagious; can be passed from person to person
- Bacterial infections **can be treated with antibiotics**

VIRUSES

- **Virus-** a parasitic subatomic (seen with a microscope) particle that infects and resides in cells of a biological organism; needs a host to reproduce (bacteria can reproduce on their own)
- Cause colds, measles, chicken pox, polio, HIV, hepatitis, gastrointestinal infections...
- **Difficult to treat;** there are some vaccines that prevent viruses from growing in the body

BLOODBORNE PATHOGENS

- **Bloodborne pathogens-** carried in the body by blood or body fluids; use great care that you do not cut or damage a client's skin during any type of service
 - **Hepatitis-** bloodborne virus causes disease that can damage the liver; three types- Hepatitis A, B, and C; B is the most difficult to kill on a surface
 - **HIV/AIDES-** bloodborne disease that breaks down the body's immune system; spread from person-to-person through blood or other body fluids (NOT through kissing, handholding, sharing food or using household items like phones)

FUNGI

- **Fungi-** microscopic plant parasites that include mold, mildew, and yeasts; can produce infectious diseases like ringworm
- **Tinea barbae (barber's itch)-** fungal infection of the skin, primarily limited to bearded areas or the neck and scalp; occurs almost exclusively in adolescent and adult males
- **Tinea capitis (*think red polka-dot cap on your head*)-** infection of the scalp with red spots at the opening of the follicles
- **Tinea pedis (pedi- means foot)-** ringworm fungus of the foot

PARASITES

- **Parasites-** organisms that grow, feed, and shelter on or in another organism (called the host) while contributing nothing to the survival of that organism
 - **Pediculosis capitis [*think cap on head with losis (lice)*]-** head lice
 - **Scabies (*think scab you got from scratching your skin*)-** skin disease caused by an itch mite that burrows under the skin

IMMUNITY- the ability to destroy and resist infection

- **Natural immunity-** partly inherited; partly developed through healthy living
- **Acquired immunity-** developed after an inoculation (vaccine)

PRINCIPLES OF PREVENTION (p. 82-92)

- **Decontamination**- removal of blood or other potentially infectious materials on an item's surface and the removal of visible debris
 - **Method 1:** clean and then disinfect with an appropriate EPA-registered disinfectant
 - Step 1:**
 - *For hands:* use soap and water to clean your hands (the friction from rubbing them together removes many more pathogens from your skin)
 - *For tools:* wash them with soap and warm water, scrubbing with a clean, disinfected nail brush; use an ultrasonic unit; use a cleaning solvent
 - Step 2:**
 - Use EPA-approved disinfectant on nonliving surfaces (**not on skin***)
*could cause an **allergic reaction** (extreme sensitivity to certain foods, chemicals or other normally harmless substances)
 - **Method 2:** clean and then sterilize
 - **Sterilization**- kills all microbial life, including spores
 - **Autoclave**- high-pressure steam equipment (so it can penetrate the wax-coating of the spores and kill them)

**Most salons are only concerned with Method 1. Salons that provide nail services may be required to use Method 2 as well.*

Choosing a Disinfectant

- Read and follow manufacturer's instructions
- Disinfectants must have an **efficacy** (effectiveness with which the disinfecting solution kills organisms when used according to the label instructions) claim on the label
- **AHP** (accelerated hydrogen peroxide)-needs to be changed every 14 days; nontoxic on the skin

Types of Disinfectants

- **Quaternary Ammonium Compounds** (quats)- very effective in salons
- **Phenolics**- powerful; very high pH; can damage skin and eyes; can damage plastic and rubber; known carcinogenic (cancer causing)
- **Bleach**-used extensively in salons; too much can damage some metals and plastics; always follow manufacturer's directions; new solution must be mixed every 24 hours or if it becomes contaminated

Disinfectant Safety

- Keep MSDS on hand
- Wear gloves and safety glasses
- Avoid skin and eye contact
- Use gloves, tongs, or draining baskets to remove implements
- Keep out of reach of children
- Carefully measure and use products according to label

Disinfect or Dispose?

- **Multi-use-** reusable; can be used on more than one person; have hard, nonporous surfaces (nippers, shears, combs, rollers...)
- **Single-Use-** disposable; cannot be used more than once; cannot be properly cleaned (pumice stone, wooden sticks, cotton balls, sponges, gauze, tissues...); must be thrown out (discarded) after each use
- **Porous-** constructed of material that has pores or openings; if porous items touch broken skin, blood or body fluid must be thrown out immediately

| DISINFECTING GUIDELINES | |
|---|--|
| Nonelectrical tools and implements | Cleaned and disinfected before and after every service—even when used on the same client |
| Electrical tools and equipment | Cannot be immersed; clean and disinfect with EPA registered disinfectant designed for these devices |
| Work surfaces | Before every service, all work surfaces must be cleaned; includes tables, styling stations, shampoo sinks, chairs, arm rests and any other surface a client’s skin may have touched |
| Towels, Linens, Capes | Clean towels, linens, and capes must be used for each client; must be washed and dried thoroughly according to label directions; store dirty linens in closed containers away from clean linens; use disposable towels when possible (restrooms); use neck strips; get clean cape if one touches a client’s skin |
| Foot Spas and Pedicure Equipment | All equipment that contains water for pedicures (whirlpool spas, pipe-less units, foot bath, basins, tubs, sinks, and bowls) must be cleaned and disinfected after every pedicure and information must be entered in a logbook |
| Soap and Detergents | Chelating detergents work to break down stubborn films and remove the residue of pedicure products; work in all types of water; low-sudsing |
| Additives, Powders, and Tablets | <i>There is no additive, powder, or tablet that eliminates the need for cleaning and disinfecting</i> |

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| Dispensary | Keep clean and orderly All containers clearly marked Store products according to manufacturer's directions Keep MSDS in convenient location for all employees |
| Handling Single Use Supplies | All single use supplies should be thrown away after one use (wooden sticks, gauze, wipes, nail files, buffers...) |
| Hand Washing | Proper hand washing removes germs from the folds and grooves of your skin and from under the free edge of your nails; wash hands thoroughly before and after each service; antibacterial and antimicrobial soaps can be drying and work no better than regular soaps; frequent handwashing leads to dryness so moisturizing is good- be sure lotion is in a pump container |
| Waterless Hand Sanitizer | Antiseptics (chemical germicides for use on skin); does not clean hands of dirt and debris; only kills germs |

UNIVERSAL PRECAUTIONS (p. 92-95)

- **Universal Precautions-** a set of guidelines published by OSHA that require the employer and employee to assume that all human blood and body fluids are infectious for bloodborne pathogens
- OSHA sets safety standards and precautions that protect employees in situations where they may be exposed to bloodborne pathogens

EXPOSURE INCIDENT

Contact with broken skin, blood, body fluids, or other potentially infectious, materials that is the result of the performance of an employee's duties

STEPS TO TAKE AFTER AN EXPOSURE INCIDENT

1. Stop the service.
2. Put on gloves to protect yourself.
3. Stop the bleeding by applying pressure to the area with a clean gauze pad.
4. When bleeding has stopped, clean the injured area with an antiseptic wipe.
5. Bandage the cut with an adhesive bandage.
6. Clean and disinfect your workstation.
7. Discard all single-use contaminated objects such as wipes or cotton balls.
8. Before you remove your gloves, be sure all multiuse tools and implements that came into contact with the blood body fluids have been thoroughly cleaned and immersed in disinfectant.
9. Remove your gloves. Seal them in a double bag with any other contaminated items thoroughly wash your hands and clean under your nails before returning to service.
10. Recommend the client see a physician if there are any signs of redness, swelling, pain...

Professional Salon Image

- Keep floors and workstations dust free. Sweep hair after every client. Mop floors and sweep carpets daily.
- Keep trash in covered waste receptacles.
- Clean fans, ventilation systems, and humidifiers at least once a week.
- Keep all work areas well-lit.
- Clean and disinfect restroom surfaces, including door handles.
- Keep restrooms well supplied.
- Never place food in the same refrigerator as salon products.
- Prohibit eating, smoking, and drinking in areas where services are performed or where product mixing occurs.
- Empty waste receptacles completely every day.
- Never place tools or implements in your mouth or pockets.
- Properly clean and disinfect all multiuse tools before reusing them.
- Store clean, disinfected tools in a clean, covered container.
- Avoid touching your face, mouth, or eyes during a service.
- Always properly wash your hands before and after each service.
- Use clean linens. Keep soiled linens separate from clean linens. Use single-use neck strips to avoid contact with shampoo capes.
- Be sure nail clients properly wash hands before service.
- Use effective exhaust systems.

It is your responsibility to follow state and federal laws and rules.

Keep your license current and notify the licensing agent if you move or change your name.

Check your state's website weekly for any updates or changes to rules or regulations.

