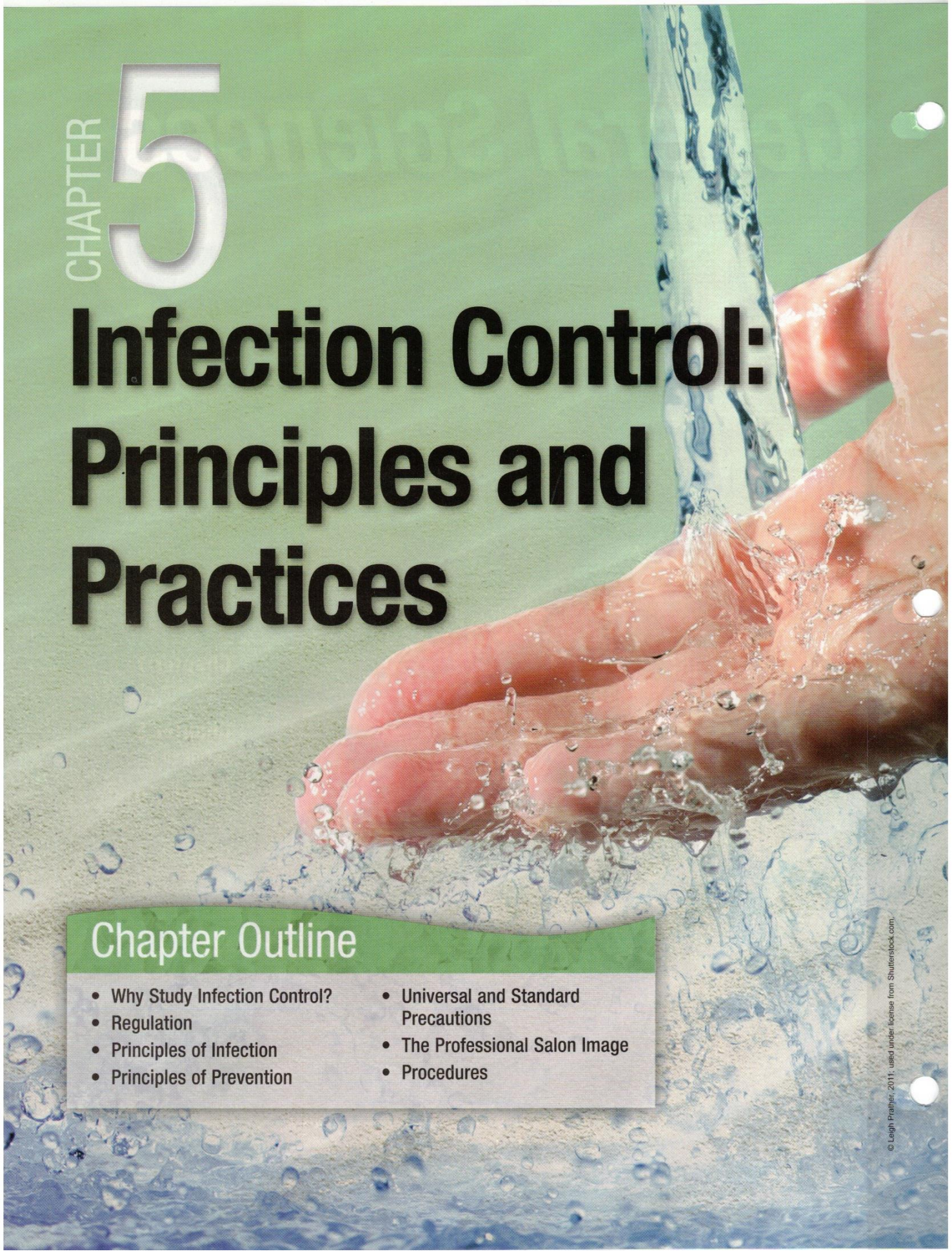
CHAPTER 5

Infection Control: Principles and Practices



Chapter Outline

- Why Study Infection Control?
- Regulation
- Principles of Infection
- Principles of Prevention
- Universal and Standard Precautions
- The Professional Salon Image
- Procedures

Learning Objectives

After completing this chapter, you will be able to:

- ☑ **LO1** Understand state laws and rules and the differences between them.
- ☑ **LO2** List the types and classifications of bacteria.
- ☑ **LO3** Define hepatitis and Human Immunodeficiency Virus (HIV) and explain how they are transmitted.
- ☑ **LO4** Explain the differences between cleaning, disinfecting, and sterilizing.
- ☑ **LO5** List the types of disinfectants and how they are used.
- ☑ **LO6** Discuss Universal and Standard Precautions.
- ☑ **LO7** List your responsibilities as a salon professional.
- ☑ **LO8** Describe how to safely clean and disinfect salon and spa tools and implements.

Key Terms

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acquired immunity pg. 86

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multiuse (reusable)
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Publisher's Note: In previous editions of this chapter the term **sanitizing** was used interchangeably to mean ***clean*** or ***cleaning***. You will also find that many commercially-available products used in the cleaning and disinfecting process continue to use the words sanitize and sanitizing. However, the publisher's goal is to clearly define these terms below and within the glossary because:

- There is much confusion about and misuse of the terms cleaning, sanitizing, disinfecting, and sterilizing within the beauty industry. In an effort to do what we can to clarify these critical terms, Milady opted to consistently use cleaning, instead of using cleaning in one sentence and sanitizing in another sentence.
- Professionals in the health care and scientific communities (of disease prevention and epidemiology) and associations, such as The Association for Professionals in Infection Control and Epidemiology, generally do not use the terms interchangeably either. Instead, it is more common for infection control professionals to use the term cleaning. Infection control professionals consider sanitation a layperson's term or a product marketing term (as in hand sanitizers).

The term clean is defined: A mechanical process (scrubbing) using soap and water or detergent and water to remove all visible dirt, debris, and many disease-causing germs. Cleaning also removes invisible debris that interferes with disinfection. Cleaning is what cosmetologists and estheticians are required to do before disinfecting.

The term sanitize is defined: A chemical process for reducing the number of disease-causing germs on cleaned surfaces to a safe level.

The term disinfection is defined: A chemical process that uses specific products to destroy harmful organisms (except bacterial spores) on environmental surfaces.

Why Study Infection Control: Principles and Practices?

Estheticians should study and have a thorough understanding of infection control principles and practices because this is a foundational element that ensures the safety of both clients and technicians and is required by law.

- To be a knowledgeable, successful, and responsible professional in the field of esthetics, you are required to understand the types of infections you may encounter in the salon, spa, or medical facility.
- Understanding the basics of cleaning and disinfecting and following federal and state rules will ensure that you have a long and successful career as an esthetician.
- Understanding the chemistry of the cleaning and disinfecting products that you use and how to use these products is essential to keep yourself, your clients, and your environment safe.

Regulation

Many different federal and state agencies regulate the practice of esthetics. Federal agencies set guidelines for the manufacturing, sale, and use of equipment and chemical ingredients along with safety in the workplace. State agencies regulate licensing, enforcement, and conduct when working in a salon, spa, or medical facility.

Federal Agencies

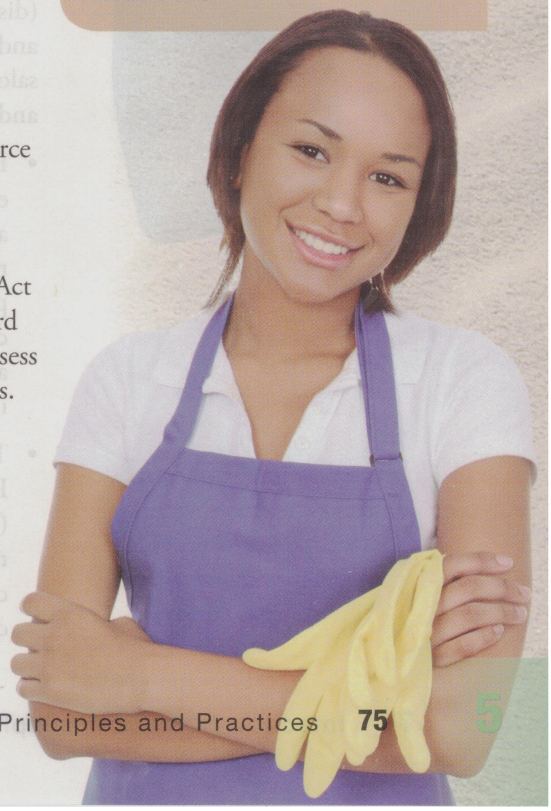
Occupational Safety and Health Administration (OSHA)

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. Regulating employee exposure to potentially toxic substances and informing employees about the possible hazards of materials used in the workplace are key points of the Occupational Safety and Health Act of 1970. This regulation created the Hazard Communication Standard (HCS), which requires that chemical manufacturers and importers assess and communicate the potential hazards associated with their products. The Material Safety Data Sheet (MSDS) is a result of the HCS.

The standards set by OSHA are important to the esthetics industry because of the products used in salons, spas, and medical offices. OSHA standards address issues relating to the handling, mixing, storing, and disposing of products; general safety in the workplace; and your right to know about any potentially hazardous ingredients contained in the products you use and how to avoid these hazards.

Web Resources

You can find an EPA-approved list of hospital and tuberculocidal disinfectants by going to the EPA's Web site at www.epa.gov and entering a search on the homepage for "EPA-registered disinfectants."



Material Safety Data Sheet (MSDS)

Federal and state laws require that manufacturers supply a **Material Safety Data Sheet (MSDS)** for all products sold. The MSDS 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. When necessary, the MSDS can be sent to a medical facility so that a doctor can better assess and treat the patient. OSHA and state regulatory agencies require that MSDSs be kept available in the salon, spa, or medical office for all products. OSHA and state board inspectors can issue fines for salons, spas, medical offices, or medi-spas for not having MSDS documents available during regular business hours.

Did You Know?

The term Hospital Grade is not a term used by the EPA. The EPA does not grade disinfectants; a product is either approved by the EPA as a hospital disinfectant or it is not.

Federal and state laws require salons, spas, and medical offices to obtain Material Safety Data Sheets from the product manufacturers and/or distributors for each professional product that is used. MSDSs often can be downloaded from the product manufacturer's or the distributor's Web site. Not having MSDSs available poses a health risk to anyone exposed to hazardous materials and violates federal and state regulations. All employees must read the information included on each MSDS and verify that they have read it by adding their signatures to a sign-off sheet for the product. These sign-off sheets must be available to state and federal inspectors upon request.

Environmental Protection Agency (EPA)

The Environmental Protection Agency (EPA) registers all types of disinfectants sold and used in the United States. **Disinfectants** (dis-in-FEK-tents) are chemical products that destroy all bacteria, fungi, and viruses (but not spores) on surfaces. The two types that are used in salons, spas, medical offices, and medi-spas are hospital disinfectants and tuberculocidal disinfectants.

- **Hospital disinfectants** (HOS-pih-tal dis-in-FEK-tents) are effective for cleaning blood and body fluids. They can be used on any nonporous surface in the salon. **Nonporous** (nahn-POHW-rus) means that an item is made or constructed of a material that has no pores or openings and cannot absorb liquids. Hospital disinfectants control the spread of **disease** (dih-ZEEZ), an abnormal condition of all or part of the body, or its systems or organs, that makes the body incapable of carrying on normal function.
- **Tuberculocidal disinfectants** (tuh-bur-kyoo-LOH-sy-dahl dis-in-FEK-tents) are proven to kill the bacteria that cause **tuberculosis** (tuh-bur-kyoo-LOH-sus), a disease caused by bacteria that are transmitted through coughing or sneezing. These bacteria are capable of forming spores, so they are difficult to kill. Tuberculocidal disinfectants are one kind of hospital disinfectant. The fact that

Did You Know?

Estheticians, nail techs, and cosmetologists can put themselves and their clients at risk unless stringent infection control guidelines are performed every day. A case in point was the spread of a bacterium called **Mycrobacterium fortuitum** (MY-koh-bak-TIR-ee-um for-TOO-i-tum), a microscopic germ that normally exists in tap water in small numbers. Until an incident occurred, health officials considered the germ to be completely harmless and not **infectious** (in-FEK-shus), caused by or capable of being transmitted by infection.

In the year 2000, over 100 clients from one California salon developed serious skin infections on their legs after getting pedicures. The infection caused ugly sores that lingered for months, required the use of strong antibiotics, and permanently scarred some of the clients' legs. The source of the infection was traced to the salon's whirlpool foot spas. Salon staff did not clean and disinfect the foot spas properly, resulting in a build-up of hair and debris in the foot spas that created the perfect breeding ground for bacteria. As a result, the state of California issued specific requirements for pedicure equipment in the hope of preventing future outbreaks.

The outbreak was a catalyst for change in the esthetics industry because, due to the media and advertising, the public views all salon or spa professionals similarly regardless of their chosen discipline, as we often work in the same facilities and have the same risk potentials for infection transmission (**Figure 5–1**).

Incidents such as this demonstrate how important it is for estheticians to use the proper disinfectants on all tools such as comedone extractors, microdermabrasion hand pieces, and other esthetic devices and accessories. When in doubt about the disinfectant you should use, consult federal and state regulations.

tuberculocidal disinfectants are more powerful does not mean that you should automatically reach for them. Some of these products can be harmful to salon, spa, and esthetic tools and equipment, and these products require special methods of disposal. Check the rules in your state to be sure that the product you choose complies with state requirements.

▲ Figure 5–1
Bacteria growing in a petri dish.

It is against federal law to use any disinfecting product contrary to its labeling. Before a manufacturer can sell a product for disinfecting surfaces, tools, implements, or equipment, it must obtain an EPA-registration number that certifies that the disinfectant may be used in the manner prescribed by the manufacturer's label. Misusing a product for disinfecting may cancel its efficacy for disinfecting. This also means that if you do not follow the label instructions for mixing, contact time, and the type of surface the disinfecting product can be used on, you are not complying with federal law. If there is a lawsuit, you can be held responsible.

State Regulatory Agencies

State regulatory agencies exist to protect salon and spa professionals and to protect consumers' health, safety, and welfare while they receive salon and spa services. State regulatory agencies include licensing agencies, state boards of cosmetology, commissions, and health departments. Regulatory agencies require that everyone working in a salon or spa follow specific procedures. Enforcement of the rules through inspections and investigations of consumer complaints is also part of an agency's responsibility. An agency can issue penalties against both the salon owner and the esthetician's license.

Penalties vary and include warnings, fines, probation, and suspension or revocation of licenses. It is vital that you understand and follow the laws and rules of your state at all times. Your salon, spa, or medical facility's reputation, your license, and everyone's safety depend on it.

Laws and Rules—What is the Difference?

Laws are written by both federal and state legislatures that determine the scope of practice (what each license allows the holder to do) and that establish guidelines for regulatory agencies to make rules. Laws are also called statutes.

Rules and regulations are more specific than laws. Rules are written by the regulatory agency or the state board, and they determine how the law must be applied. Rules establish specific standards of conduct and can be changed or updated frequently. Esthetician's must be aware of any changes or updates to the rules and regulations, and they must comply with them. ☑ L01

fyi

Remember: Salon or spa professionals are not allowed to treat or recommend treatments for infections, diseases, or abnormal conditions. Clients with such problems are referred to their physicians.

▲ Figure 5–2
Gloves are worn during treatments and services in the salon and spa.

Principles of Infection

Being an esthetician is fun and rewarding, but it is also a great responsibility. One careless action could cause injury or **infection** (in-FEK-shun), the invasion of body tissues by disease-causing pathogens. If your actions result in an injury or infection, you could lose your license and ruin the salon's or spa's reputation. Fortunately, preventing the spread of infections is easy when you know proper procedures and follow them at all times. Prevention begins and ends with you (**Figure 5–2**).

Infection Control

Infection control are the methods used to eliminate or reduce the transmission of infectious organisms. Estheticians must understand and remember the following four types of potentially harmful organisms:

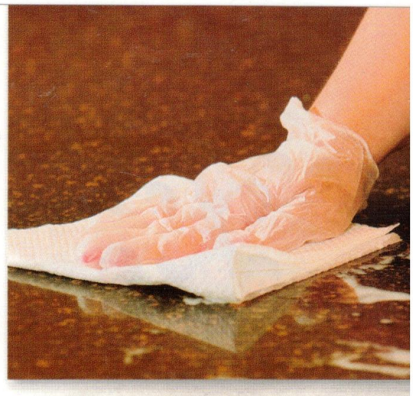
- Bacteria
- Fungi
- Viruses
- Parasites

Under certain conditions, many of these organisms can cause infectious disease. An **infectious disease** (in-FEK-shus dih-ZEEZ) is caused by pathogenic (harmful) organisms that enter the body. An infectious disease may or may not be spread from one person to another person.

In this chapter, you will learn how to properly clean and disinfect the tools and equipment you use in the salon, spa, or medical facility so they are safe for you and your clients (**Figure 5–3**). To **clean** (cleaning) is a mechanical process (scrubbing) using soap and water or detergent and water to remove all visible dirt, debris, and many disease-causing germs from tools, implements, and equipment. The process of **disinfection** (dis-in-FEK-shun) destroys most, but not necessarily

all, harmful organisms on environmental surfaces. Disinfection is not effective against bacterial spores.

Cleaning and disinfecting procedures are designed to prevent the spread of infection and disease. Disinfectants used in salons, spas, and medical facilites must be **bactericidal** (back-teer-uh-SYD-ul), capable of destroying bacteria; **virucidal** (vy-ru-SYD-ul), capable of destroying viruses; and **fungicidal** (fun-jih-SYD-ul), capable of destroying fungi. Be sure to mix and use these disinfectants according to the instructions on the labels so they are safe and effective.



▲ Figure 5–3
Gloves are worn for cleaning and disinfecting all surfaces.

Contaminated salon or spa tools and equipment can spread infections from client to client if the proper disinfection steps are not taken after every service. You have a professional and legal obligation to protect clients from harm by using proper infection control procedures. If clients are infected or harmed because you perform infection control procedures incorrectly, you may be found legally responsible for their injuries or infections.

Bacteria

Bacteria (bak-TEER-ee-ah) (singular: bacterium, back-TEER-ee-um) are one-celled microorganisms that have both plant and animal characteristics. A **microorganism** (my-kroh-OR-gah-niz-um) is any organism of microscopic or submicroscopic size. Some bacteria are harmful and some are harmless. Bacteria can exist almost anywhere: 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. Bacteria are so small they can only be seen with a microscope.

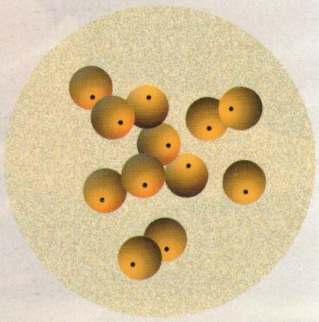
Types of Bacteria

There are thousands of different kinds of bacteria that fall into two primary types: pathogenic and nonpathogenic. Most bacteria are **nonpathogenic** (non-path-uh-JEN-ik); in other words, they are harmless organisms that may perform useful functions. They are safe to come in contact with since they do not cause disease or harm. For example, nonpathogenic bacteria are used to make yogurt, cheese, and some medicines. In the human body, nonpathogenic bacteria help the body break down food and protect against infection. They also stimulate the immune system.

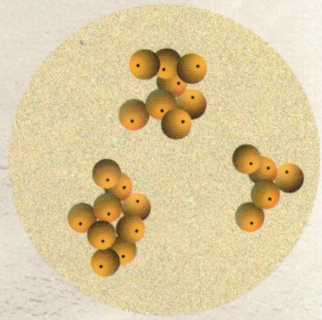
Pathogenic (path-uh-JEN-ik) bacteria are harmful microorganisms that can cause disease or infection in humans when they invade the body. Salons, spas, medical facilities, and schools must maintain strict standards for cleaning and disinfecting at all times to prevent the spread of pathogenic microorganisms. It is crucial that estheticians learn proper infection control practices while in school to ensure that you understand the importance of following them throughout your career. Table 5-1, Causes of Disease (pg. 80), presents terms and definitions related to pathogens.

Classifications of Pathogenic Bacteria

Bacteria have three distinct shapes that help to identify them. Pathogenic bacteria are classified as described below.



▲ Figure 5–4
Cocci.



▲ Figure 5–5
Staphylococci.

- **Cocci** (KOK-sy) are round-shaped bacteria that appear singly (alone) or in groups (**Figure 5–4**).
  - **Staphylococci** (staf-uh-loh-KOK-sy) are pus-forming bacteria that grow in clusters like bunches of grapes. They cause abscesses, pustules, and boils (**Figure 5–5**). Some types of staphylococci (or staph as many call it) may not cause infections in healthy humans.
  - **Streptococci** (strep-toh-KOK-sy) are pus-forming bacteria arranged in curved lines resembling a string of beads. They cause infections such as strep throat and blood poisoning (**Figure 5–6**).
  - **Diplococci** (dip-lo-KOK-sy) are spherical bacteria that grow in pairs and cause diseases such as pneumonia (**Figure 5–7**).
- **Bacilli** (bah-SIL-ee) are short rod-shaped bacteria. They are the most common bacteria and produce diseases such as tetanus (lockjaw), typhoid fever, tuberculosis, and diphtheria (**Figure 5–8**).
- **Spirilla** (spy-RIL-ah) are spiral or corkscrew-shaped bacteria. They are subdivided into subgroups, such as treponema pallidum, which causes syphilis, a sexually transmitted disease (STD), and borrelia burgdorferi, which causes Lyme disease (**Figure 5–9**).

Movement of Bacteria

Different bacteria move in different ways. Cocci rarely show active **motility** (MOH-til-eh-tee), which means self-movement. Cocci are transmitted in the air, in dust, or within the substance in which they settle. Bacilli and spirilla are both capable of movement and use slender, hair-like extensions called **flagella** (fluh-JEL-uh) for locomotion (moving about). You may also hear people refer

CAUSES OF DISEASE

TERM	DEFINITION
Bacteria	One-celled microorganisms having both plant and animal characteristics. Some are harmful and some are harmless.
Direct Transmission	Transmission of blood or body fluids through touching (including shaking hands), kissing, coughing, sneezing, and talking.
Indirect Transmission	Transmission of blood or body fluids through contact with an intermediate contaminated object such as a razor, extractor, nipper, or an environmental surface.
Infection	Invasion of body tissues by disease-causing pathogens.
Germs	Nonscientific synonym for disease-producing organisms.
Microorganism	Any organism of microscopic to submicroscopic size.
Parasites	Organisms that grow, feed, and shelter on or in another organism (referred to as the host), while contributing nothing to the survival of that organism. Parasites must have a host to survive.
Toxins	Various poisonous substances produced by some microorganisms (bacteria and viruses).
Virus	A parasitic submicroscopic particle that infects and resides in cells of biological organisms. A virus is capable of replication only through taking over the host cell's reproductive function.

▲ Table 5–1 Causes of Disease.

to **cilia** (SIL-ee-uh) as the hair-like extensions on cells. Cilia are shorter than flagella. Both flagella and cilia move cells, but they have a different motion. Flagella move in a snake-like motion while cilia move in a rowing-like motion.

Bacterial Growth and Reproduction

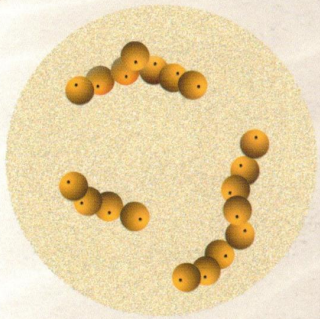
When seen under a microscope, bacteria look like tiny bags. They generally consist of an outer cell wall that contains liquid called protoplasm. Bacterial cells manufacture their own food through what they absorb from the surrounding environment. They give off waste products, grow, and reproduce. The life cycle of bacteria consists of two distinct phases: the active stage and the inactive or spore-forming stage.

Active stage. During the active stage, bacteria grow and reproduce. Bacteria multiply best in warm, dark, damp, or dirty places. When conditions are favorable, bacteria grow and reproduce. When they reach their largest size, they divide into two new cells. This division is called **binary fission** (BY-nayr-ee FISH-un). The cells that are formed are called daughter cells and are produced every 20 to 60 minutes, depending on the bacteria. The infectious pathogen staphylococcus aureus undergoes cell division every 27 to 30 minutes. When conditions become unfavorable and difficult for them to thrive, bacteria either die or become inactive.

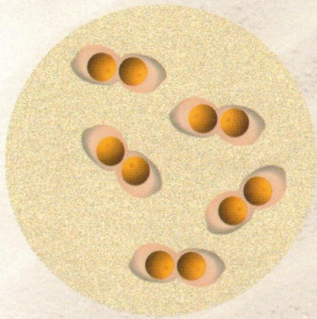
Inactive or spore-forming stage. Certain bacteria, such as the anthrax and tetanus bacilli, coat themselves with wax-like outer shells. These bacteria are able to withstand long periods of famine, dryness, and unsuitable temperatures. In this stage, spores can be blown about and are not harmed by disinfectants, heat, or cold. When favorable conditions are restored, the spores change into the active form and begin to grow and reproduce.

Bacterial Infections

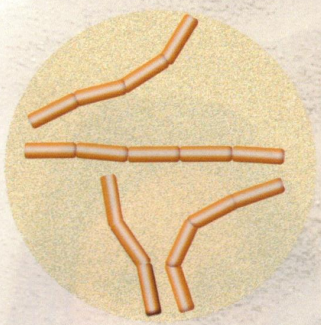
There can be no bacterial infection without the presence of pathogenic bacteria. Therefore, if pathogenic bacteria are eliminated, clients cannot become infected. You may have a client who has tissue **inflammation** (in-fluh-MAY-shun), a condition in which the body reacts to injury, irritation, or infection. An inflammation is characterized by redness, heat, pain, and swelling. **Pus** is a fluid created by infection. It contains white blood cells, bacteria, and dead cells. The presence of pus is a sign of a bacterial infection. A **local infection**, such as a pimple or abscess, is confined to a particular part of the body and appears as a lesion containing pus. Staphylococci are among the most common bacteria that affect humans and are normally carried by about a third of the population. Staph bacteria can be picked up on doorknobs, countertops, and other surfaces but in salons, spas, medical facilities, and medi-spas they are more frequently spread through skin-to-skin contact (such as shaking hands) or through the use of unclean tools or implements. If these bacteria get into the wrong place, they can be very dangerous. Although lawsuits are rare considering the number of services performed in a salon or spa or medi-spa, every year many facilities are sued for allegedly causing staph infections.



▲ Figure 5–6
Streptococci.



▲ Figure 5–7
Diplococci.



▲ Figure 5–8
Bacilli.

▲ Figure 5–9
Spirilla.

Staph is responsible for food poisoning and a wide range of diseases, including toxic shock syndrome. Some types of infectious staph bacteria are highly resistant to conventional treatments such as antibiotics. An example is the staph infection called **methicillin-resistant staphylococcus aureus (MRSA)** (METH-eh-sill-en-ree-ZIST-ent staf-uh-loh-KOK-us OR-ee-us). Historically, MRSA occurred most frequently among persons with weakened immune systems or among people who had undergone medical procedures. Today, it has become more common in otherwise healthy people. Clients who appear completely healthy may bring this organism into the salon where it can infect others. Some people carry the bacteria and are not even aware of their infection, but the people they infect may show more obvious symptoms. MRSA initially appears as a skin infection such as pustules, rashes, and boils that can be difficult to cure. Without proper treatment, the infection becomes systemic and can have devastating consequences that can result in death. Because of these highly resistant bacterial strains, it is important to clean and disinfect all tools and implements used in the salon or spa. You owe it to yourself and your clients! Also, do not perform services if the client's skin, scalp, neck, hands, or feet show visible signs of abrasion or infection. ☑ L02

When a disease spreads from one person to another person, it is said to be a **contagious disease** (kon-TAY-jus dih-ZEEZ), also known as **communicable disease** (kuh-MYOO-nih-kuh-bul dih-ZEEZ). Some of the more common contagious diseases that prevent a salon or spa professional from servicing a client are the common cold, ringworm, conjunctivitis (pinkeye), viral infections and natural nail, toe, or foot infections. The most common way these infections spread is through dirty hands, especially under the fingernails and in the webs between the fingers. Be sure to always wash your hands after using the restroom and before eating. Contagious diseases can also be spread by contaminated implements, cuts, infected nails, open sores, pus, mouth and nose discharges, shared drinking cups, telephone receivers, and towels. Uncovered coughing or sneezing and spitting in public also spread germs.

Table 5–2, Terms Related to Disease, lists terms and definitions that are important for a general understanding of disease.

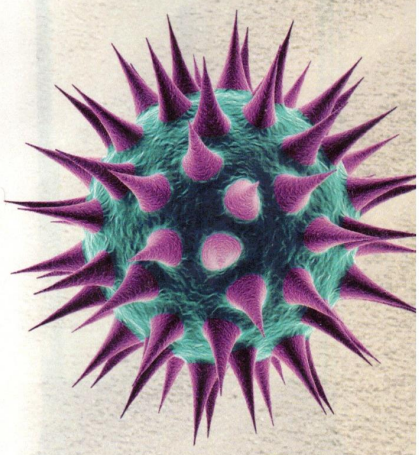
Viruses

A **virus** (VY-rus) (plural: viruses) is a parasitic submicroscopic particle that infects and resides in the cells of a biological organism. A virus is capable of replication only through taking over the host cell's reproductive function. Viruses are so small that they can only be seen under the most sophisticated and powerful microscopes. They cause common colds and other respiratory and gastrointestinal (digestive tract) infections. Other viruses that plague humans are measles, mumps, chicken pox, smallpox, rabies, yellow fever, hepatitis, polio, influenza, and HIV, which causes AIDS.

TERMS RELATED TO DISEASE	
TERM	**DEFINITION**
Allergy	Reaction due to extreme sensitivity to certain foods, chemicals, or other normally harmless substances.
Contagious Disease	A disease that is spread from one person to another person. Some of the more contagious diseases are the common cold, ringworm, conjunctivitis (pinkeye), viral infections, and natural nail or toe and foot infections.
Contamination	The presence, or the reasonably anticipated presence, of blood or other potentially infectious materials on an item's surface or visible debris or residues such as dust, hair, and skin.
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.
Diagnosis	Determination of the nature of a disease from its symptoms and/or diagnostic tests. Federal regulations prohibit salon or spa professionals from performing a diagnosis.
Disease	An abnormal condition of all or part of the body, or its systems or organs, that makes the body incapable of carrying on normal function.
Exposure Incident	Contact with nonintact (broken) skin, blood, body fluid, or other potentially infectious materials that is the result of the performance of an employee's duties.
Infectious Disease	Disease caused by pathogenic (harmful) microorganisms that enter the body. An infectious disease may or may not be spread from one person to another person.
Inflammation	Condition in which the body reacts to injury, irritation, or infection. An inflammation is characterized by redness, heat, pain, and swelling.
Occupational Disease	Illnesses resulting from conditions associated with employment, such as prolonged and repeated overexposure to certain products or ingredients.
Parasitic Disease	Disease caused by parasites, such as lice and mites.
Pathogenic Disease	Disease produced by organisms including bacteria, viruses, fungi, and parasites.
Systemic Disease	Disease that affects the body as a whole, often due to under-functioning or over-functioning internal glands or organs. This disease is carried through the blood stream or the lymphatic system.

▲ Table 5–2 **Terms Related to Disease.**

One difference between viruses and bacteria is that a virus can live and reproduce only by taking over other cells and becoming part of them, while bacteria can live and reproduce on their own. Also, bacterial infections can usually be treated with specific antibiotics, but viruses are not affected by antibiotics. In fact, viruses are hard to kill without harming the body's own cells in the process. Vaccinations prevent viruses from growing in the body. There are many vaccines available for viruses, but not all viruses have vaccines. There is a vaccine available for hepatitis B, and all salon, spa, and medical facility practitioners should receive this vaccine. Health authorities recommend that service providers in industries with direct contact to the public—including estheticians, cosmetologists, teachers, florists, and bank tellers—ask their doctor about getting vaccinated for hepatitis B.



Bloodborne Pathogens

Disease-causing microorganisms that are carried in the body by blood or body fluids, such as hepatitis and HIV, are called **bloodborne pathogens**.

Did You Know?

An example of a common viral infection often seen in salons, spas, and medical facilities is the **human papillomavirus (HPV)**, also known as **plantar warts**. This virus can infect the bottom of the foot and resembles small black dots, usually in clustered groups. HPV is highly contagious, difficult to kill, and can be passed from client to client by the use of contaminated devices, implements, and tools. Even though the esthetician does not perform pedicures, unless they are licensed to do so, it is important to refer the client to a physician if you see signs of HPV.

In salons, spas, and medi-spas the spread of bloodborne pathogens is possible through performing facial treatments such as during facials and performing extractions, using microdermabrasion equipment, performing peels or working with postoperative patients in a medical offices or spas, while waxing, tweezing, or whenever the skin is broken. Use great care to avoid cutting or damaging clients' skin during any type of service.

Cutting living skin is considered outside the scope of the estheticians licensed and approved practices. Federal law allows only qualified medical professionals to cut living skin, since this is considered a medical procedure. This means that estheticians are not allowed to cut or remove live tissue.

Hepatitis

Hepatitis (hep-uh-TY-tus), is a bloodborne virus that causes disease and can damage the liver. In general, it is difficult to contract hepatitis; however, hepatitis is easier to contract than HIV because hepatitis can be present in all body fluids of those who are infected. In addition, unlike HIV, hepatitis can live on a surface outside the body for long periods of time. For this reason, it is vital that all surfaces that come in contact with a client are thoroughly cleaned and disinfected.

There are three types of hepatitis that are of concern in the salon, spa, or medical facility: hepatitis A, hepatitis B, and hepatitis C. Hepatitis B is the most difficult to kill on a surface, so check the label of the disinfectant you use to be sure that the product is effective against hepatitis B. Hepatitis B and C are spread from person to person through blood and, less often, through other body fluids, such as semen and vaginal secretions.

HIV/AIDS

Human immunodeficiency virus (HIV) (HYOO-mun ih-MYOO-noh-di-FISH-en-see VY-rus), abbreviated HIV, is the virus that causes **acquired immune deficiency syndrome (AIDS)** (uh-KWY-erd ih-MYOON di-FISH-en-see sin-drohm), abbreviated AIDS. AIDS is a disease that breaks down the body's immune system. HIV is spread from person to person through blood and, less often, through other body fluids such as semen and vaginal secretions. A person can be infected with HIV for many years without having symptoms, but testing can determine whether a person is infected within six months after exposure to the virus. Sometimes, people who are HIV-positive have never been tested and do not know they have the potential to infect other people.

The HIV virus is spread mainly through the sharing of needles by intravenous (IV) drug users and by unprotected sexual contact. Less commonly, HIV is spread through accidents with needles in healthcare settings. The virus is less likely to enter the bloodstream through cuts

and sores. It is not spread by holding hands, hugging, kissing, sharing food, or using household items such as the telephone or toilet seats. There are no documented cases that indicate the virus can be spread by food handlers, insects, or casual contact during hair, skin, nail, and pedicure salon services.

If you accidentally cut a client who is HIV-positive, the tool will be contaminated. You cannot continue to use the implement without cleaning and disinfecting it. Continuing to use a contaminated implement without cleaning and disinfecting it puts you and others in the salon, spa, or medical facility at risk of infection. ☑ L03

Fungi

Fungi (FUN-jI) (singular: fungus, FUN-gus) are microscopic plant parasites that include molds, mildews, and yeasts. They can produce contagious diseases, such as ringworm. **Mildew** (MIL-doo), another fungus, affects plants or grows on inanimate objects but does not cause human infections in the salon. Depending upon the type, they grow in single cells or in colonies. Fungi, also called vegetable parasites, obtain nourishment from dead organic matter or from living organisms. Most fungi are nonpathogenic and make up many of the body's normal flora. Fungal infections usually affect the skin as they live off of keratin, a protein that makes up the skin. The most basic cause of fungal infections are **dermatophytes** (DUR-mah-toh-fytes), the fungi that cause skin, nail, and hair infections.

Common types of fungal infections are **tinea pedis**, a ringworm fungus of the foot or athlete's foot; tinea corporis, or ringworm; and onychomycosis, a nail infection (**Figure 5–10**). **Folliculitis**, also known as **folliculitis barbae, sycosis barbae**, or **barber's itch**, is an inflammation of the hair follicles caused by a bacterial infection from ingrown hairs due to shaving or other epilation methods. It is primarily limited to the bearded areas of the face and neck or around the scalp. This infection occurs almost exclusively in older adolescent and adult males. A person with folliculitis may have deep, inflamed or noninflamed patches of skin on the face or the nape of the neck.

Other types of fungal infections are those brought about by yeast—such as **tinea versicolor**, also known as **sun spots**—which are characterized by white or varicolored patches on the skin and are often found on arms and legs. Intertrigo is another type of fungal infection found in the body folds of the skin in areas such as the underarms and in the groin, while thrush is found in the mouth and vaginal areas; both are caused by candida albicans, a yeast that thrives in dark, moisture-rich environments.

Both bacterial and fungal infections will spread to others unless all implements, surfaces, towels, and everything that touches the client is properly cleaned and disinfected before reuse or is thrown away after use. It is always important to assume that all clients may have infections and to use proper infection control measures at all times.

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Pathogenic bacteria, viruses, or fungi can enter the body through:

- Broken or inflamed skin, such as a cut or a scratch. They also can enter through a bruise or a rash. Intact skin is an effective barrier to infection.
- The mouth (contaminated water, food, or fingers).
- The nose (inhaling different types of dust or droplets from a cough or sneeze).
- The eyes or ears (less likely, but possible).
- Unprotected sex.

The body prevents and controls infections with:

- Healthy, unbroken skin—the body's first line of defense.
- Body secretions, such as perspiration and digestive juices.
- White blood cells that destroy bacteria.
- Antitoxins that counteract the toxins.

Courtesy of Godfrey F. Mix, DPM, Sacramento, CA.

▲ Figure 5–10
Nail Fungus.

Courtesy of The National Pediculosis Association®, Inc.

▲ Figure 5–11
Head Lice.

Parasites

Parasites are organisms that grow, feed, and shelter on or in another organism (referred to as a host), while contributing nothing to the survival of that organism. They must have a host to survive. Parasites can live on or inside of humans and animals. They also can be found in food, on plants and trees, and in water. Humans can acquire internal parasites by eating fish or meat that has not been properly cooked. External parasites that affect humans on or in the skin include ticks, fleas, and mites.

Head lice are a type of parasite responsible for contagious diseases and conditions (**Figure 5–11**). One condition caused by an infestation of head lice is called pediculosis capitis (puh-dik-yuh-LOH-sis KAP-ih-tus). **Scabies** (SKAY-beez) is also a contagious skin disease and is caused by the itch mite, which burrows under the skin. Contagious diseases and conditions caused by parasites should only be treated by a doctor. Contaminated countertops, tools, and equipment should be thoroughly cleaned and then disinfected with an EPA-registered disinfectant for the time recommended by the manufacturer or with a bleach solution for 10 minutes.

Did You Know?

In most states estheticians are not allowed to use needles, lancets, and probes that penetrate the skin nor are they allowed to offer any invasive services. You should check your state's regulations about using any implement that may penetrate the skin. If you are allowed to use these implements in your state, be sure to receive the proper training before using them in the salon, spa, or medical facility.

Immunity

Immunity is the ability of the body to destroy and resist infection. Immunity against disease can be either natural or acquired and is a sign of good health. **Natural immunity** is partly inherited and partly developed through healthy living. **Acquired immunity** is immunity that the body develops after overcoming a disease, through inoculation (such as flu vaccinations), or through exposure to natural allergens such as pollen, cat dander, and ragweed.

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▲ Figure 5–12
A variety of disinfectants are available for salon and spa use.

Principles of Prevention

Proper decontamination can prevent the spread of disease caused by exposure to potentially infectious materials on an item's surface. Decontamination also will prevent exposure to blood and visible debris or residue such as dust, hair, and skin.

Decontamination (dee-kuhn-tam-ih-NAY-shun) is 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. There are two methods of decontamination.

- **Decontamination Method 1:** Cleaning and then disinfecting with an appropriate EPA-registered disinfectant (**Figure 5–12**).
- **Decontamination Method 2:** Cleaning and then sterilizing.

Many state regulatory agencies believe there is a lower risk of infection in salons than in medical facilities, where sterilizing is

a major concern. Therefore, most salons and spas are concerned with Decontamination Method 1: cleaning and disinfecting. Estheticians working in medical facilities will use a combination of both Decontamination Method 1 and Decontamination Method 2. Some states have upgraded their infection control standards in salons and spas that perform nail services to Decontamination Method 2: cleaning and sterilizing. When done properly, Decontamination Method 2 results in the destruction of all microbes through heat and pressure in an **autoclave** (**Figure 5–13**).

Courtesy of Midmark.

▲ **Figure 5–13**
An autoclave is for use in sterilization, which is the highest level of decontamination.

Decontamination Method 1

Decontamination Method 1 has two steps: cleaning and disinfecting. Remember that when you clean, you must remove all visible dirt and debris 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.

A surface is properly cleaned when the number of contaminants on the surface is greatly reduced. In turn, this reduces the risk of infection. The vast majority of contaminants and pathogens can be removed from the surfaces of tools and implements through proper cleaning. This is why cleaning is an important part of disinfecting tools and equipment. A surface must be properly cleaned before it can be properly disinfected. Using a disinfectant without cleaning first is like using mouthwash without brushing your teeth—it just does not work properly!

Cleaned surfaces can still harbor small amounts of pathogens, but the presence of fewer pathogens means infections are less likely to be spread. Putting antiseptics on your skin or washing your hands with soap and water will drastically lower the number of pathogens on your hands. However, it does not clean them properly. The proper cleaning of the hands requires rubbing hands together and using liquid soap, warm running water, a nail brush, and a clean towel. (See Procedure 5–3, Proper Hand Washing, later in this chapter.) Do not underestimate the importance of proper cleaning and hand washing. They are the most powerful and important ways to prevent the spread of infection.

There are three ways to clean your tools or implements:

- Washing with soap and warm water, then scrubbing them with a clean and properly disinfected nail brush.
- Using an ultrasonic unit.
- Using a cleaning solvent (e.g., on comedone extractors).

The second step of Decontamination Method 1 is disinfection. Remember that disinfection is the process that eliminates most, but not necessarily all, microorganisms on nonliving surfaces. This process is not effective against bacterial spores. In the salon or spa setting, disinfection is extremely effective in controlling microorganisms on surfaces such as comdeone extractors, microdermabrasion tips, and other tools and

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Benefits of Sterilizing

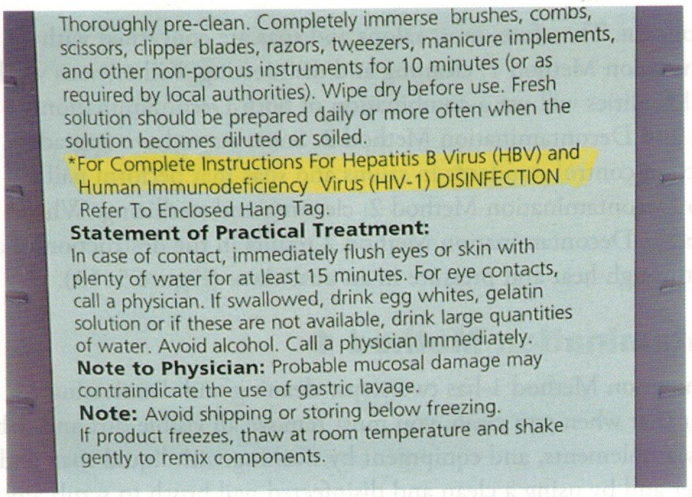
Not every tool or implement can be sterilized. Therefore, most state regulatory agencies do not require salons or spas to sterilize tools and implements. Check with your state regulatory agency to determine whether sterilization of tools and implements is required in your state.

The benefits of sterilization are:

- Sterilization is the most reliable means of infection control.
- Sterilized tools and implements in sealed bags assure clients that you are using fresh instruments during the service. The bag should be opened just before the service to show clients that the tools and implements have been sterilized, and that the salon or spa owners and staff care about the safety of their clients.

CAUTION!

Read labels carefully! Manufacturers take great care to develop safe and highly effective products, however, when used improperly, many otherwise safe products can be dangerous. If you do not follow proper guidelines and instructions, any professional salon or spa product can be dangerous. As with all products, disinfectants must be used exactly as the label instructs (**Figure 5–14**).


Thoroughly pre-clean. Completely immerse brushes, combs, scissors, clipper blades, razors, tweezers, manicure implements, and other non-porous instruments for 10 minutes (or as required by local authorities). Wipe dry before use. Fresh solution should be prepared daily or more often when the solution becomes diluted or soiled.
*For Complete Instructions For Hepatitis B Virus (HBV) and Human Immunodeficiency Virus (HIV-1) DISINFECTION Refer To Enclosed Hang Tag.
Statement of Practical Treatment:
In case of contact, immediately flush eyes or skin with plenty of water for at least 15 minutes. For eye contacts, call a physician. If swallowed, drink egg whites, gelatin solution or if these are not available, drink large quantities of water. Avoid alcohol. Call a physician Immediately.
Note to Physician: Probable mucosal damage may contraindicate the use of gastric lavage.
Note: Avoid shipping or storing below freezing. If product freezes, thaw at room temperature and shake gently to remix components.

▲ Figure 5–14
A product label.

equipment (multiuse and single-use tools are discussed later in this chapter). Any disinfectant used in the salon or spa should carry an EPA-registration number and the label should clearly state the specific organisms the solution is effective in killing when used according to the label instructions.

CAUTION!

Improper mixing of disinfectants—to be weaker or more concentrated than the manufacturer's instructions—can dramatically reduce their effectiveness. Always add the disinfectant concentrate to the water when mixing and always follow the manufacturer's instructions for proper dilution.

Safety glasses and gloves should be worn to avoid accidental contact with eyes and skin (**Figure 5–15**).

Remember that disinfectants are products that destroy all bacteria, fungi, and viruses (but not spores) on surfaces. Disinfectants are not for use on human skin, hair, or nails. Never use disinfectants as hand cleaners since this can cause skin irritation and **allergy** (AL-ur-jee), a reaction due to extreme sensitivity to certain foods, chemicals, or other normally harmless substances. All disinfectants clearly state on the label that you should avoid skin contact. This means avoid contact with your skin as well as the client's. Do not put your fingers directly into any disinfecting solution. Disinfectants are pesticides and can be harmful if absorbed through the skin. If you mix a disinfectant in a container that is not labeled by the manufacturer, the container must be properly labeled with the contents and the date it was mixed. All concentrated disinfectants must be diluted exactly as instructed by the manufacturer on the container's label.

Decontamination Method 2

Decontamination Method 2 also has two steps: cleaning and *sterilizing*. The word sterilize is often used incorrectly. **Sterilization** is the process that completely destroys all microbial life, including spores.

The most effective methods of sterilization use high-pressure steam equipment called autoclaves. Simply exposing instruments to steam is not enough. To be effective against disease-causing

◀ Figure 5–15
Wear safety goggles and gloves while handling disinfectants.

pathogens, the steam must be pressurized in an autoclave so that the steam penetrates the spore coats of the spore-forming bacteria. Dry-heat forms of sterilization are less efficient and require longer times at higher temperatures. Dry-heat sterilization is not recommended for use in salons or spas.

It is important to understand how to use an autoclave correctly. For example, dirty implements cannot be properly sterilized without first being properly cleaned. Autoclaves need regular maintenance and testing to ensure they are in good working order. The color indicator strips that are used on autoclave bags can provide false readings, so they should never be used solely to determine whether instruments have been sterilized. These strips are only an indication, not verification that the autoclave is working. The Centers for Disease Control and Prevention (CDC) requires that autoclaves be tested weekly to ensure they are properly sterilizing implements. The accepted method is called a spore test. Sealed packages containing test organisms are subjected to a typical sterilization cycle and then sent to a contract laboratory that specializes in autoclave performance testing. You can find laboratories to perform this type of test by simply doing an Internet search for autoclave spore testing. Other regular maintenance is also required to ensure the autoclave reaches the correct temperature and pressure. Keep in mind that an autoclave that does not reach the intended temperature for killing microorganisms may create a warm, moist place where pathogenic organisms can grow and thrive.

Salons should always follow the autoclave manufacturer's recommended schedule for cleaning, changing the water, service visits, replacement parts, and any required maintenance. Be sure to keep a logbook of all usage, testing, and maintenance for the state board to inspect. Showing your logbook to clients can provide them with peace of mind and confidence in your ability to protect them from infection. ☑ L04

Choosing a Disinfectant

You must read and follow the manufacturer's instructions whenever you are using a disinfectant. Mixing ratios (dilution) and contact time are very important. Not all disinfectants have the same concentration, so be sure to mix the correct proportions according to the instructions on the label. If the label does not have the word *concentrate* on it, the product is already mixed. It must be used directly from the container and must not be diluted. All EPA-registered disinfectants, even those sprayed on large surfaces, will specify a contact time in their directions for use. Contact time is the amount of time the surface must stay moist with disinfectant in order for the disinfectant to be effective.

Disinfectants must have efficacy claims on the label. **Efficacy** (ef-ih-KUH-see) is the ability to produce an effect. As applied to disinfectant claims, efficacy means the effectiveness with which a disinfecting solution kills organisms when used according to the label instructions.

CAUTION!

Disinfectants must be registered with the EPA. Look for an EPA-registration number on the label.

Did You Know?

The EPA has recently approved a new disinfectant that can be used in the salon, spa, and medical facility which is available in a spray and an immersion form, as well as wipes.

- Accelerated hydrogen peroxide (AHP). This disinfectant is based on stabilized hydrogen peroxide. AHP disinfectant needs to be changed only every 14 days and is nontoxic to the skin and the environment. There is an AHP formula that is available for disinfecting pedicure tubs.

Read the labels of all types of disinfectants closely. Choose the one that is most appropriate for its intended use and is the safest for you and your clients.

CAUTION!

For salon and spa use, bleach is not a magic potion! All disinfectants, including bleach, are inactivated (made less effective) in the presence of many substances, including oils, lotions, creams, hair, skin, nail dust, and nail filings. If bleach is used to disinfect equipment, it is critical to use a detergent first to thoroughly clean the equipment and remove all debris. Never mix detergents with the bleach.

Did You Know?

Not all household bleaches are effective as disinfectants. To be effective, the bleach must have an EPA-registration number and contain at least 5 percent sodium hypochlorite and be diluted properly to a 10 percent solution—9 parts water to 1 part bleach.

Professionals have many disinfectants available to them and should choose the one best suited for their specialty. The ideal disinfectant would:

- Maintain efficacy in the presence of **bioburden**, the number of viable organisms in or on an object or surface or the organic material on the surface of an object before decontamination or sterilization.
- Require that it be changed after a longer length of time (at least a week or more, not daily).
- Be inexpensive.
- Be nontoxic and nonirritating.
- Include strips for checking effectiveness.
- Be readily available from multiple manufacturers.
- Be EPA-approved.
- Be environmentally friendly (can be disposed down the salon drain).
- Have no odor.
- Be noncorrosive.

Estheticians working in salons, spas, and medical facilities must be aware of the types of disinfectants that are on the market. Additionally, it is important to learn about new disinfectants that become available, as there are constant upgrades and improvements being made in these products. Salons and spas pose a lower infection risk when compared to hospitals. For this reason, hospitals must meet much stricter infection control standards. They often use disinfectants that are too dangerous for the salon environment. Even though salons pose a lower risk of spreading certain types of infections, it is still very important to clean and then disinfect all tools, implements, surfaces, and equipment correctly. When salon and spa 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. They also can be immersed in a 10 percent bleach solution. Always wear gloves and follow the proper Universal Precautions protocol for cleaning up after an exposure incident (described later in this chapter).

Proper Use of Disinfectants

Implements must be thoroughly cleaned of all visible matter or residue before being placed in disinfectant solution. This is because residue will interfere with the disinfectant and prevent proper disinfection. Properly cleaned implements and tools, free from all visible debris, must be completely immersed in disinfectant solution. Complete immersion means there is enough liquid in the container to cover all surfaces of the item being disinfected, including the handles, for 10 minutes or for the time recommended by the manufacturer.

Disinfectant Tips

- Use only on precleaned, hard, nonporous surfaces.
- Always wear gloves and safety glasses when handling disinfectant solutions.
- Always dilute products according to the instructions on the product label.
- An item must remain submerged in the disinfectant for 10 minutes unless the product label specifies differently.
- To disinfect large surfaces such as tabletops, carefully apply the disinfectant onto the precleaned surface and allow it to remain wet for 10 minutes, unless the product label specifies differently.
- If the product label states, "Complete Immersion," the entire implement must be completely immersed in the solution.
- Change the disinfectant according to the instructions on the label. If the liquid is not changed as instructed, it will no longer be effective and may begin to promote the growth of microbes.
- For spas, proper disinfection of a whirlpool pedicure spa requires that the disinfecting solution circulate for 10 minutes, unless the product label specifies otherwise.

Types of Disinfectants

Disinfectants are not all the same. Some are appropriate for use in the salon or spa and some are not. Some disinfectants should be used on tools and implements that are immersed and some should be used on nonporous surfaces. You should be aware of the different types of disinfectants and the ones that are recommended for salon use.

Disinfectants Appropriate for Salon Use

Quaternary ammonium compounds (KWAT-ur-nayr-ree uh-MOH-neeum KAHM-powndz), also known as **quats** (KWATZ), are disinfectants that are very effective when used properly in the salon or spa. The most advanced type of these formulations is called *multiple quats*. Multiple quats contain sophisticated blends of quats that work together to dramatically increase the effectiveness of these disinfectants. Quat solutions usually disinfect implements in 10 minutes. These formulas may contain antirust ingredients, so leaving tools in the solution for prolonged periods can cause dulling or damage. They should be removed from the solution after the specified period, rinsed (if required), dried, and stored in a clean, covered container.

Phenolic disinfectants (fi-NOH-lik dis-in-FEK-tents) are powerful tuberculocidal disinfectants. They are a form of formaldehyde, have a very high pH, and can damage the skin and eyes. Phenolic disinfectants can be harmful to the environment if put down the drain. They have been used reliably over the years to disinfect salon tools; however, they do have drawbacks. Phenol

can damage plastic and rubber and can cause certain metals to rust. Phenolic disinfectants should never be used to disinfect pedicure tubs or equipment. Extra care should be taken to avoid skin contact with phenolic disinfectants. Phenolics are known carcinogens.

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Another word that is used (most often in marketing and sales copy) to describe multiuse items is *disinfectable*, which means these items can be disinfected and used again.

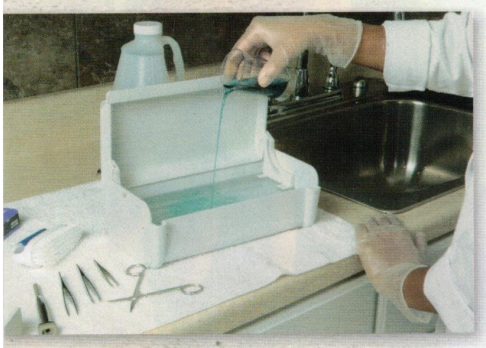
Bleach

Household bleach, 5.25 percent **sodium hypochlorite** (SOH-dee-um hy-puh-KLOR-ite), is an effective disinfectant and has been used extensively as a disinfectant in the salon. Using too much bleach can damage some metals and plastics, so be sure to read the label for safe use. Bleach can be corrosive to metals and plastics and can cause skin irritation and eye damage.

To mix a bleach solution, always follow the manufacturer's directions. Store the bleach solution away from heat and light. A fresh bleach solution should be mixed every 24 hours or when the solution has been contaminated. After mixing the bleach solution, date the container to ensure that the solution is not saved from one day to the next. Bleach can be irritating to the lungs, so be careful about inhaling the fumes.

Disinfectant Safety

Disinfectants are pesticides (a type of poison) and can cause serious skin and eye damage. Some disinfectants appear clear while others are cloudy. Always use caution when handling disinfectants, and follow the safety tips below.



▲ Figure 5–16
Wear gloves while mixing disinfectants.

Safety Tips for Disinfectants

Always

- Keep an MSDS on hand for the disinfectant(s) you use.
- Wear gloves and safety glasses when mixing disinfectants (**Figure 5–16**).
- Avoid skin and eye contact.
- Add disinfectant to water when diluting (rather than adding water to a disinfectant) to prevent foaming, which can result in an incorrect mixing ratio.
- Use tongs, gloves, or a draining basket to remove implements from disinfectants.
- Keep disinfectants out of reach of children.
- Carefully measure and use disinfectant products according to label instructions.
- Follow the manufacturer's instructions for mixing, using, and disposing of disinfectants.

- Carefully follow the manufacturer's directions for when to replace the disinfectant solution in order to ensure the healthiest conditions for you and your client. Replace the disinfectant solution every day—more often if the solution becomes soiled or contaminated.

Never

- Let quats, phenols, bleach, or any other disinfectant come in contact with your skin. If you do get disinfectants on your skin, immediately wash the area with liquid soap and warm water. Then rinse the area and dry the area thoroughly.
- Place any disinfectant or other product in an unmarked container. All containers should be labeled (Figure 5–17).

Jars or containers used to disinfect implements are often incorrectly called wet sanitizers. The purpose of disinfectant containers is to disinfect, not to clean. Disinfectant containers must be covered, but not airtight. Remember to clean the container every day and to wear gloves when you do. Always follow the manufacturer's label instructions for disinfecting products. ☑ L05

Disinfect or Dispose?

How can you tell which items in the salon can be disinfected and reused? There are two types of items used in salons: multiuse (reusable) items and single-use (disposable) items.

Multiuse, also known as **reusable**, items can be cleaned, disinfected, and used on more than one person even if the item is accidentally exposed to blood or body fluid. These items must have a hard, nonporous surface. Examples of multiuse items are comedone extractors, metal diamond tips on microdermabrasion devices, and tweezers.

Single-use, also known as **disposable**, items cannot be used more than once. These items cannot be properly cleaned so that all visible residue is removed—such as cotton tips, balls and rounds, sponges, gauze, tissues, and paper towels. Single-use items must be thrown out after each use.

Porous means that an item is made or constructed of a material that has pores or openings. These items are absorbent. Some porous items can be safely cleaned, disinfected, and used again. Examples of porous items are towels, chamois, and linens.

If a porous item contacts broken skin, blood, body fluid, or any unhealthy skin or nails, it must be discarded immediately. Do not try to disinfect the item. If you are not sure whether an item can be safely cleaned, disinfected, and used again, throw it out.

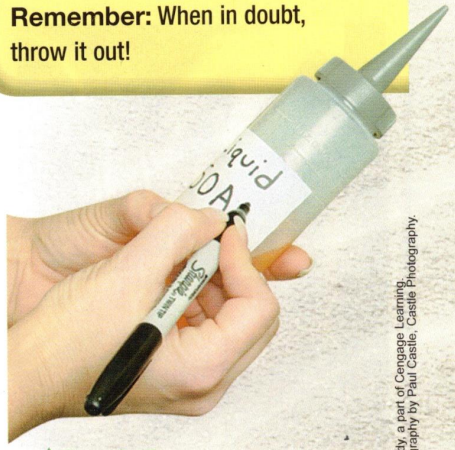
Keep a Logbook

Salons and spas should always follow manufacturers' recommended schedules for cleaning and disinfecting tools and implements, and sinks and basins. It is necessary to schedule regular service visits for

CAUTION!

Porous or absorbent items must be disposed of properly if the skin is broken during the service or if they come into contact with unhealthy skin or nails.

Remember: When in doubt, throw it out!



▲ Figure 5–17
All containers must be labeled.

CAUTION!

Ultraviolet (UV) sanitizers are useful storage containers, but they do not disinfect or sterilize.

- Carefully follow the manufacturer's directions for when to replace the disinfectant solution in order to ensure the healthiest conditions for you and your client. Replace the disinfectant solution every day—more often if the solution becomes soiled or contaminated.

Never

- Let quats, phenols, bleach, or any other disinfectant come in contact with your skin. If you do get disinfectants on your skin, immediately wash the area with liquid soap and warm water. Then rinse the area and dry the area thoroughly.
- Place any disinfectant or other product in an unmarked container. All containers should be labeled (Figure 5–17).

Jars or containers used to disinfect implements are often incorrectly called wet sanitizers. The purpose of disinfectant containers is to disinfect, not to clean. Disinfectant containers must be covered, but not airtight. Remember to clean the container every day and to wear gloves when you do. Always follow the manufacturer's label instructions for disinfecting products. ☑ L05

Disinfect or Dispose?

How can you tell which items in the salon can be disinfected and reused? There are two types of items used in salons: multiuse (reusable) items and single-use (disposable) items.

Multiuse, also known as **reusable**, items can be cleaned, disinfected, and used on more than one person even if the item is accidentally exposed to blood or body fluid. These items must have a hard, nonporous surface. Examples of multiuse items are comedone extractors, metal diamond tips on microdermabrasion devices, and tweezers.

Single-use, also known as **disposable**, items cannot be used more than once. These items cannot be properly cleaned so that all visible residue is removed—such as cotton tips, balls and rounds, sponges, gauze, tissues, and paper towels. Single-use items must be thrown out after each use.

Porous means that an item is made or constructed of a material that has pores or openings. These items are absorbent. Some porous items can be safely cleaned, disinfected, and used again. Examples of porous items are towels, chamois, and linens.

If a porous item contacts broken skin, blood, body fluid, or any unhealthy skin or nails, it must be discarded immediately. Do not try to disinfect the item. If you are not sure whether an item can be safely cleaned, disinfected, and used again, throw it out.

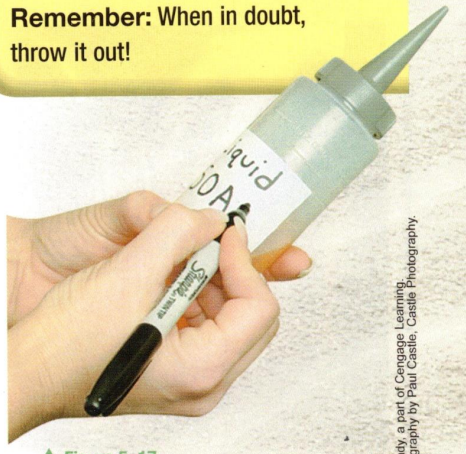
Keep a Logbook

Salons and spas should always follow manufacturers' recommended schedules for cleaning and disinfecting tools and implements, and sinks and basins. It is necessary to schedule regular service visits for

CAUTION!

Porous or absorbent items must be disposed of properly if the skin is broken during the service or if they come into contact with unhealthy skin or nails.

Remember: When in doubt, throw it out!



▲ Figure 5–17
All containers must be labeled.

CAUTION!

Ultraviolet (UV) sanitizers are useful storage containers, but they do not disinfect or sterilize.

items with hands that have been exposed to the client's skin. **Aseptic procedures**, the process of properly handling sterilized and disinfected equipment and supplies to reduce contamination, are an important part of client and practitioner safety guidelines.

Cleaning Towels and Linens

All linens should be used once and then cleaned by laundering with detergent and bleach. Soiled laundry should be folded into itself, handled with gloves and placed in a closed, lined receptacle until it is washed.

Laundry hampers or bins are to be cleaned daily with disinfectant. Laundry should be done regularly rather than left for the next day. Be sure that towels and linens are thoroughly dried. Items that are not dry may grow mildew and bacteria. Keep clean towels in a closed closet or cabinet until needed. Store soiled linens and towels in covered or closed containers, away from clean linens and towels, even if your state regulatory agency does not require that you do so. Whenever possible, use disposable towels, especially in restrooms.

CAUTION!

Products and equipment that have the word *sanitizer* on the label are merely cleaners. They do not disinfect. Items must be properly cleaned and disinfected after every use before using them on another client.

Soaps and Detergents

Chelating soaps (CHE-layt-ing SOHPS), also known as **chelating detergents**, work to break down stubborn films and remove the residue of products such as scrubs, salts, and masks. The chelating agents in these soaps work in all types of water, are low-sudsing, and are specially formulated to work in areas with hard tap water. Hard tap water reduces the effectiveness of cleaners and disinfectants. If your area has hard water, ask your local distributor for soaps that are effective in hard water. This information will be stated on the product's label.

CAUTION!

Some states require that all procedures for cleaning and disinfecting tools, implements, and equipment must be recorded in a salon, spa, or medical facility logbook. Check with your state's regulatory agency to determine whether you are required to do so. It is a good practice to complete a logbook, even if not required, as it shows clients you are serious about protecting their health.

Additives, Powders, and Tablets

There is no additive, powder, or tablet that eliminates the need for you to clean and disinfect. Products of this type cannot be used instead of EPA-registered liquid disinfectant solutions. You cannot replace proper cleaning and disinfection with a shortcut. Water sanitizers do not properly clean or disinfect equipment. They are designed for Jacuzzis and hydrotherapy tubs where no oils, lotions, or other enhancements are used. Therefore, water sanitizers do not work well in a salon or spa environment. Never rely solely on water sanitizers to protect your clients from infection. Products that contain Chloramine T, for example, are not effective disinfectants for equipment. These products only treat the water and have limited value in the salon or spa. They do not replace proper cleaning and disinfection. Remember: There are no shortcuts!

CAUTION!

Follow this rule for all tools and supplies: If you cannot disinfect your tools or supplies, you must discard them.

Dispensary

The dispensary must be kept clean and orderly, with the contents of all containers clearly marked. Always store products according to the

CAUTION!

When washing hands, use liquid soaps in pump containers. Bar soaps can grow bacteria.

manufacturer's instructions, away from heat, and out of direct sunlight. Keep the MSDSs for all products used in the salon, spa, or medical facility in a convenient, central location for staff members.

Handling Single-Use Supplies

All single-use supplies, such as mascara wands, makeup applicators, cotton, gauze, wipes, and paper towels, should be thrown away after one use. Anything exposed to blood, including skin care treatment debris, must be double-bagged and marked with a biohazard sticker, separated from other waste, and disposed of according to OSHA standards.

CAUTION!

Taking the time to conduct a thorough facial skin analysis will enable you to determine whether a client has any open wounds or abrasions. If the client does have an open wound or abrasion, do not perform services of any kind for the client.

Hand Washing

Properly washing your hands is one of the most important actions you can take to prevent spreading germs from one person to another. Proper hand washing removes germs from the folds and grooves of the skin and from under the free edge of the nail plate by lifting and rinsing germs and contaminants from the surface.

You should wash your hands thoroughly before and after each service. Follow the hand washing procedure in this chapter. Antimicrobial and antibacterial soaps can dry the skin, and medical studies suggest that they are no more effective than regular soaps or detergents. Therefore, it is recommended that you minimize the use of antimicrobial and antibacterial soaps. Repeated hand washing can also dry the skin, so using a moisturizing hand lotion after washing is a good practice. Be sure the hand lotion is in a pump container, not a jar.

PROCEDURE 5-3 Proper Hand Washing PAGE 108

Avoid using very hot water to wash your hands because this is another practice that can damage the skin. Remember: You must wash your hands thoroughly before and after each service, so do all you can to reduce any irritation that may occur.

Waterless Hand Sanitizers

Antiseptics (ant-ih-SEP-tiks) are germicides formulated for use on skin and are registered and regulated by the Food and Drug Administration (FDA). Antiseptics can contain either alcohol or benzalkonium chloride (ben-ZAHL-khon-ee-um KLOHR-yd), which is less drying to the skin than alcohol. Alcohol solutions containing 60 percent to 95 percent alcohol are most effective. Lower and higher concentrations are less potent. Most alcohol-based products contain skin-conditioning agents to reduce the risk of irritation. Antiseptics cannot clean the hands of dirt and debris; this can only be accomplished with liquid soap, a soft-bristle brush, and water. If the hands are soiled, use hand sanitizers only

after properly cleaning your hands. Never use an antiseptic to disinfect instruments or other surfaces. They are ineffective for that purpose.

Universal and Standard Precautions

The Centers of Disease Control and Prevention (CDC) studies diseases and provides guidance to prevent their spread. AIDS was a major public health crisis in the 1980s. In 1985, the CDC responded by introducing Universal Precautions (UP). Using this system, workers evaluated each client care situation and applied gloves if there was a risk of contact with visible blood. Sometimes blood is present but not visible. If blood was not visible, gloves were not needed. In 1987, a hospital developed a new system called **body substance isolation (BSI)**. The guidelines were published and widely adopted. When using BSI, **personal protective equipment (PPE)** is to be worn for contact with all body fluids, even if blood is not visible.

Standard Precautions (SP) were introduced by the CDC in 1996 to replace Universal Precautions. Workers must assume that all blood and body fluids are potential sources of infection, regardless of the perceived risk. The precautions are used for all clients whenever exposure to bloodborne pathogens is likely. Standard Precautions took information from both Universal Precautions and BSI. The importance of all body fluids, secretions, and excretions was recognized as a factor in the spread of disease. PPE is worn any time contact with blood, body fluid, secretions, excretions, mucous membranes, or nonintact skin is likely. The name *Standard Precautions* was selected to prevent confusion with other types of precautions. One goal was to be as simple anduser-friendly as possible.

The most common method for spreading infection is through the hands. In 2002, the CDC published the "Guidelines for Hand Hygiene." Investigators studied different methods of cleansing hands. They found that products containing alcohol were more effective in removing germs than using soap and water, unless the hands were visibly soiled. Most health care facilities and many other businesses began using alcohol-based products for routinely cleansing the hands. This includes the operating room, which is the most sterile area in a hospital. Standard Precautions were updated in 2007 by the CDC. The 2002 handwashing guidelines were included, as were precautions to prevent the spread of respiratory infections.

When the CDC publishes a change, it takes several years for the new information to get to everyone who needs it. From 1970 to 1996, infection control changes were frequent. Some workers had a hard time keeping up with all the changes and became confused. Many continue to use a combination of both Universal Precautions and BSI to this day. Many experienced workers consider Standard Precautions the equivalent of

BRIEF COMPARISON OF UNIVERSAL AND STANDARD PRECAUTIONS

UNIVERSAL PRECAUTIONS (UP)	STANDARD PRECAUTIONS (SP)
Overview	**Overview**
Everyone is considered a potential threat for transmission of bloodborne pathogens. Workers are expected to evaluate the risk and use universal precautions to protect themselves and others.	Workers must assume that all blood and body fluids are potential sources of infection, regardless of the perceived risk. Workers are expected to use standard precautions to protect themselves and others.
Universal Precautions apply to: • Blood • Other body fluids containing visible blood, semen, vaginal secretions • Body tissues • Fluids: cerebrospinal, synovial (knee), pleural (lung), peritoneal (abdomen), pericardial (heart), and amniotic fluid (bag of water that protects the fetus during pregnancy)	**Standard Precautions apply to:** • Blood • All body fluids • All secretions (except sweat) • Excretions • Mucous membranes • Nonintact (broken) skin • Breast milk
Universal Precautions do not apply to: • Feces • Sputum • Tears • Vomitus • Breast milk • Nasal secretions • Sweat • Urine • Saliva	Wear gloves when contact with *any* blood or body fluid is likely. Wear gloves for all contact with body substances and tissues, even if you cannot see blood. Gloves are not required for contact with perspiration (sweat).
Unless these substances contain visible blood. Wear gloves when contact with body fluids containing *visible blood* is likely.	
Gloves	**Gloves**
Changing gloves during care not required. Change gloves after each contact.	Apply gloves when contact with the substances listed above is likely. Change gloves *immediately prior to* contact with mucous membranes and nonintact skin.
Items and Surfaces in Room	**Items and Surfaces in Room**
Apply UP to items and surfaces that may have contacted substances to which UP apply. Environmental contamination not an issue.	Apply SP to items and surfaces that may have contacted substances to which SP apply. Avoid environmental contamination with used gloves. (This means counters, faucets, door knobs, etc.)

▲ Table 5–3 **Brief Comparison of Universal and Standard Precautions.**

Universal Precautions. This is incorrect. They are very different systems. Refer to Table 5–3 for a brief comparison of Universal and Standard precautions.

As you can see, infection control procedures change frequently as new information becomes available. Keep up with changes by reading professional journals, looking on-line, and going to continuing education classes. As an esthetician, you must understand the differences between UP and SP. By using Standard Precautions, you can be sure that you are

BRIEF COMPARISON OF UNIVERSAL AND STANDARD PRECAUTIONS	
UNIVERSAL PRECAUTIONS (UP)	**STANDARD PRECAUTIONS (SP)**
Needles and Sharps	**Needles and Sharps**
Avoid recapping needles. Place used sharps in a puncture-resistant container near the area of use.	Avoid recapping needles. Handle needles and sharps carefully to prevent injury to the user and others who may contact the soiled device. Place used sharps in a puncture-resistant container near the area of use.
Splashing of Blood and Body Fluids	**Splashing of Blood and Body Fluids**
No guidelines; splashing of blood or body fluids not addressed.	Apply a mask, eyewear, or gown if splashing is likely.
Additional Information	
For additional information, refer to: Hand Hygiene in Healthcare Settings go to: www.cdc.gov/handhygiene/ 2007 Guideline for Isolation Precautions: Preventing Transmission of Infectious Agents in Healthcare Settings go to: www. inyurl.com/4zxfunz	

▲ Table 5–3 (continued)

meeting the highest standards of practice. To protect yourself and your clients, learn all you can and be very diligent with infection control!

OSHA and Universal Precautions

OSHA publishes a set of standards for **Universal Precautions (UP)** that require the employer and employee to assume that there are pathogens present in human blood that can spread disease in humans. (These standards can be found in the OSHA publication, *Standard 1910.1030, Bloodborne Pathogens.*) Because it may not be possible to identify clients with infectious diseases, strict infection-control practices should be used with all clients. In most instances, clients who are infected with the hepatitis B virus or other bloodborne pathogens are **asymptomatic**, which means that they show no symptoms or signs of infection. Bloodborne pathogens are more difficult to kill than germs that live outside the body.

OSHA sets safety standards and precautions that protect employees in situations where they could be exposed to bloodborne pathogens. Precautions include proper hand washing, wearing gloves, and properly handling and disposing of sharp instruments and any other items that may have been contaminated by blood or other body fluids. It is important that specific procedures are followed if visible blood is present.

CAUTION!

Since estheticians work with an array of sharp implements and tools, cutting yourself is a very real possibility. If you do suffer a cut and blood is present, you must follow the steps for an exposure incident outlined in this chapter for your safety and the safety of your client.

An Exposure Incident: Contact with Blood or Body Fluid

You should never perform a service on any client who comes into the salon or spa with an open wound or an abrasion. Sometimes accidents

happen while a service is being performed, and it is important to know what to do if this happens.

An **exposure incident** is contact with nonintact (broken) skin, blood, body fluid, or other potentially infectious materials that is the result of the performance of an employee's duties. Should the client suffer a cut or abrasion that bleeds during a service, follow these steps for the client's safety, as well as your own:

1. Stop the service.
2. Put on gloves to protect yourself from contact with the client's blood.
3. Stop the bleeding by applying pressure to the area with a clean cotton ball or piece of gauze.
4. When bleeding has stopped, clean the injured area with an antiseptic wipe. Every salon, spa, and medical facility must have a first aid kit.
5. Bandage the cut with an adhesive bandage.
6. Clean and disinfect your workstation or styling station, using an EPA-registered disinfectant designed for cleaning blood and body fluids.
7. Discard all single-use contaminated objects such as wipes or cotton balls by double-bagging (place the waste in a plastic bag and then in a trash bag). Place a biohazard sticker (red or orange) on the bag, and deposit the bag into a container for contaminated waste. Deposit sharp disposables in a sharps box (**Figure 5–20**).
8. Before removing your gloves, make sure that all multiuse tools and implements that have come into contact with blood or other body fluids are thoroughly cleaned and completely immersed in an EPA-registered disinfectant solution designed for cleaning blood and body fluids or 10 percent bleach solution for at least 10 minutes or for the time recommended by the manufacturer of the product. Be sure that you do not touch other work surfaces in the workplace, such as faucets and counters. If you do, these areas must also be properly cleaned and disinfected. Remember: Blood may carry pathogens, so you should never touch an open sore or a wound.
9. Remove your gloves and seal them in the double bag along with the other contaminated items for disposal. Thoroughly wash your hands and clean under the free edge of your nails with soap and warm water before returning to the service.
10. Recommend that the client see a physician if any signs of redness, swelling, pain, or irritation develop. L06

▲ Figure 5–20
Always use a sharps box to dispose of sharp, disposable implements.

First Aid

Because emergencies arise in every line of business, knowledge of basic first aid is invaluable. Every esthetician should know CPR (cardiopulmonary resuscitation) and should have some first aid training. You can obtain this training through your local trade or technical college. Emergency medical technicians (EMTs) or an ambulance should be called as soon as possible after any accident has occurred. Do *not* recommend treatment for specific emergencies—always call a medical professional or 911.

In Case of Emergency

Every salon, spa, and medical facility should have current emergency contact information posted clearly by each telephone and in a central and known location. The emergency contact list should include the following information: fire department, police (local and state), ambulance, nearest hospital emergency room, poison control center.

Each employee should know where exits are located and how to evacuate the building efficiently in case of fire or other emergency. Yearly fire drills or evacuation procedures should be performed just to keep everyone informed on how to clear safely out of a building. Fire extinguishers should be placed where they can be reached easily, and employees should know how to use them. Employees should have regular training on how to operate these devices, and they should know exactly where they are located. A well-stocked first aid kit should be kept within easy reach (Figure 5–21).

Did You Know?

You should never attempt to clean or disinfect any used tool or implement at your workstation. Proper cleaning and disinfecting should only be accomplished in a specified area of the salon and requires the use of clean, warm running water, a scrub brush, and liquid soap for cleaning and disinfectant solution for disinfecting. Tools and implements must also be completely rinsed after being disinfected and then dried and kept in a dry, covered container until use.

Basic First Aid Knowledge

Estheticians are not medical personnel, but anyone who works with the public should have a working knowledge of first aid as it pertains to the work environment. People who can administer first aid are also good citizens in their community. It makes good sense to know how to apply pressure to a bleeding wound, or how to dress a burn, or what to do if someone chokes, and it will certainly come in handy should you come across a situation that requires such knowledge.

Burns

There are four levels of burns (Figure 5–22 on pg. 102). They are identified as follows:

1. ***First degree***. A minor burn affecting the upper layers of the skin, primarily the epidermis, with some redness and irritation, but no blisters or open skin.
2. ***Second degree***. This level of burn affects the top two layers of the skin, the epidermis, and the dermis. It is more painful than the first-degree burn and will show redness and blisters.
3. ***Third degree***. This burn affects all layers of the skin and will blister, swell, and scar. The pain associated with a third-degree burn depends on the amount of nerve damage that has taken place.
4. ***Fourth degree***. These are burns that have injured the muscle, ligaments, tendons, nerves, blood vessels, and bones. These burns always require medical attention.

Eye Flush

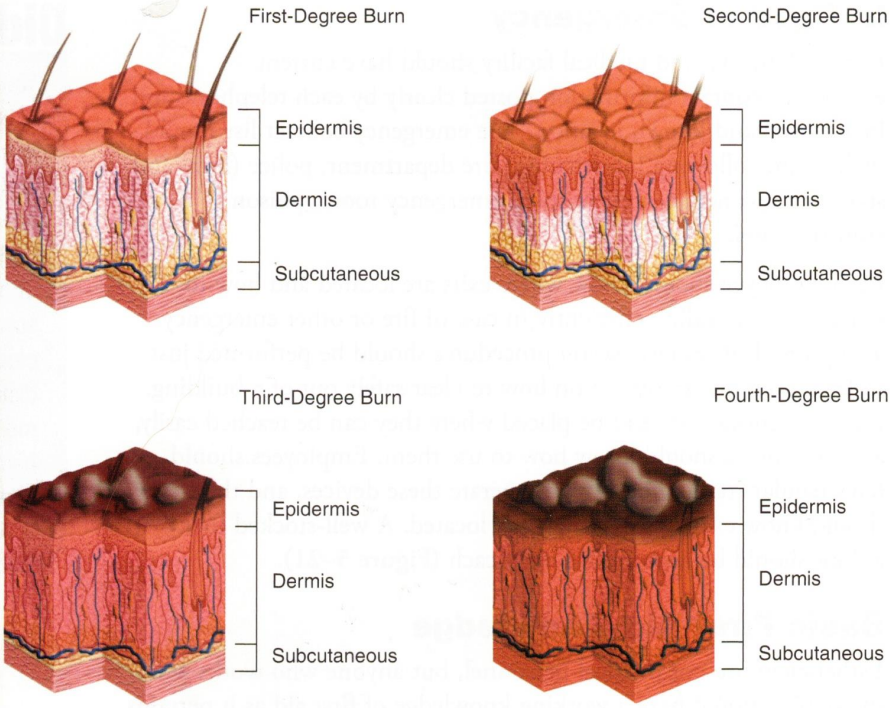
Eye-flushing stations are important to an esthetician working in any type of setting and are a requirement for every business using chemicals to maintain, according to OSHA Standards. As always, prevention is

Did You Know?

A first aid kit at a minimum should include these items: small bandages, gauze, antiseptic, and a blood-spill kit that contains disposable bags, gloves, and hazardous waste stickers.

▲ Figure 5–21
Having a well-stocked first aid kit is necessary.

▶ Figure 5–22
The four degrees of burns.



the best answer to warding off problems of product getting into a client's eye. Place eye protection on clients during all appropriate treatments; however, accidents do happen, and when they do, you must be proactive. Take the client to the nearest available sink or eye-flushing station. Gently flush the eye with water for 15 minutes and have the client seek medical attention immediately.

The Professional Salon Image

Infection control practices should be a part of the normal routine for you and your coworkers so that the salon or spa and staff project a steadfast professional image. The following are some simple guidelines that will keep the workplace healthy and looking its best.

- Keep floors and workstations dust-free. Sweep hair off the floor after every client. Mop floors and vacuum carpets every day.
- Control dust, hair, and other debris.
- Keep trash in a covered waste receptacle to reduce chemical odors and fires.
- Clean fans, ventilation systems, and humidifiers at least once each week.
- Keep all work areas well-lit.
- Clean and disinfect restroom surfaces, including door handles.

- Provide toilet tissue, paper towels, liquid soap, properly disinfected soft-bristle nail brushes, and a container for used brushes in the restroom.
- Do not allow the salon or spa to be used for cooking or living purposes.
- Never place food in the same refrigerator used to store salon or spa products.
- Prohibit eating, drinking, and smoking in areas where services are performed or where product mixing occurs (e.g., back-bar area). Consider having a smoke-free salon. Even when you do not smoke in the service areas, the odor can flow into those areas.
- Empty waste receptacles regularly throughout the day. A metal waste receptacle with a self-closing lid works best.
- Make sure all containers are properly marked and properly stored.
- Never place any tools or implements in your mouth or pockets.
- Properly clean and disinfect all multiuse tools before reusing them.
- Store clean and disinfected tools in a clean, covered container. Clean drawers may be used for storage if only clean items are stored in the drawers. Always isolate used implements away from disinfected implements.
- Avoid touching your face, mouth, or eye areas during services.
- Clean and disinfect all work surfaces after every client.
- Have clean, disposable paper towels for each client.
- Always properly wash your hands before and after each service.
- Use clean linens and disposable towels on clients. Keep soiled linens separate from clean linens. Use effective exhaust systems in the salon spa or medical facility. This will help ensure proper air quality in the workplace.

Your Professional Responsibility

You have many responsibilities as a salon professional, but none is more important than protecting your clients' health and safety. Never take shortcuts for cleaning and disinfecting. You cannot afford to skip steps or save money when it comes to safety.

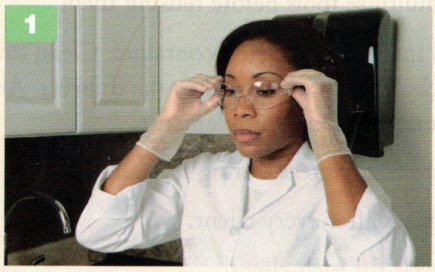
- It is your professional and legal responsibility to follow state and federal laws and rules.
- Keep your license current and notify the licensing agency if you move or change your name.
- Check your state's Web site weekly for any changes or updates to rules and regulations. ☑ L07

PROCEDURE

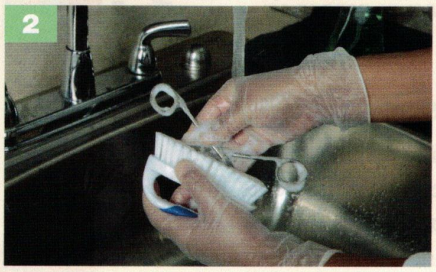
5-1

Disinfecting Nonelectrical Tools and Implements

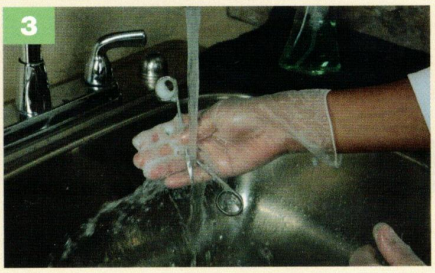
Nonelectrical tools and implements include items such as comedone extractors, microdermabrasion hand pieces, galvanic accessories, makeup brushes, and tweezers.



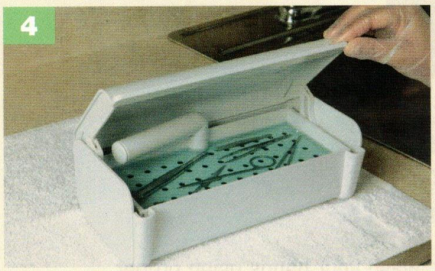
1 It is important to wear safety glasses and gloves while disinfecting nonelectrical tools and implements to protect your eyes from unintentional splashes of disinfectant and to prevent possible contamination of the implements by your hands and to protect your hands from the powerful chemicals in the disinfectant solution.



2 Rinse all implements with warm running water, and then thoroughly clean them with soap, a nail brush, and warm water. Brush grooved items, if necessary, and open hinged implements to scrub the revealed area.

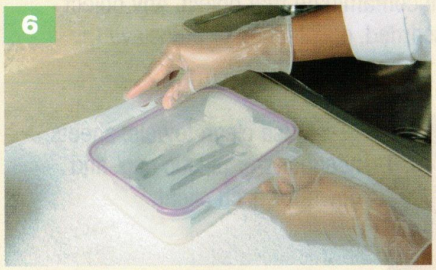


3 Rinse away all traces of soap with warm running water. The presence of soap in most disinfectants will cause them to become inactive. Soap is most easily rinsed off in warm, not hot, water. Hotter water is not more effective. Dry implements thoroughly with a clean or disposable towel, or allow them to air dry on a clean towel. Your implements are now properly cleaned and ready to be disinfected.

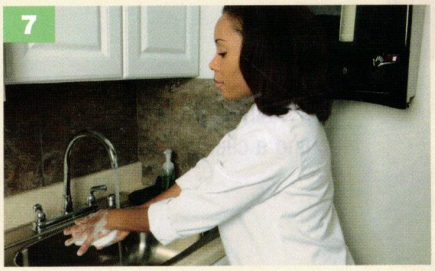


4 It is extremely important that your implements be completely clean before you place them in the disinfectant solution. If implements are not clean, your disinfectant may become contaminated and ineffective. Immerse cleaned implements in an appropriate disinfection container holding an EPA-registered disinfectant for the required time (at least 10 minutes or according to the manufacturer's instructions). Remember to open hinged implements before immersing them in the disinfectant. If the disinfection solution is visibly dirty, or if the solution has been contaminated, it must be replaced.

5 After the required disinfection time has passed, remove tools and implements from the disinfection solution with tongs or gloved hands, rinse the tools and implements well in warm running water, and pat them dry.



6 Store disinfected tools and implements in a clean, covered container until needed.



7 Remove gloves and thoroughly wash your hands with warm running water and liquid soap. Rinse and dry hands with a clean fabric or disposable towel. ☑ L08

PROCEDURE

5-2

Aseptic Procedure

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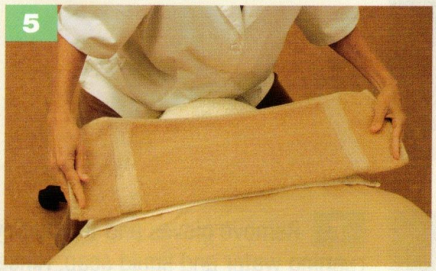
1 Before beginning any treatment, wash your hands using proper decontamination methods.

2 Lay out on a clean towel all implements that you will use during the treatment, such as cotton, swabs, sponges, and so forth.

3 To prevent airborne contact, cover with another clean towel until you are ready to start the treatment. By prearranging these utensils, you will be less likely to need to open a container to get more supplies. This not only prevents cross-contamination but is also more efficient.

4 Once you have begun a treatment, never open any package or container or touch a product without a spatula or tongs. Touching any object with gloved hands that have touched the client will contaminate that object. Any object touched during treatment must be discarded, disinfected, or autoclaved.



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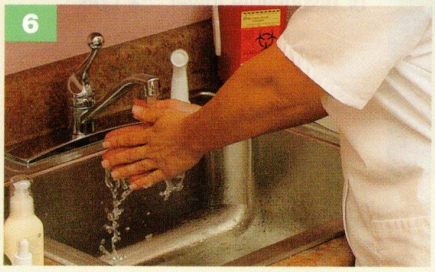
5 Use clean towels, sheets, headband or plastic cap, and gown for each client.



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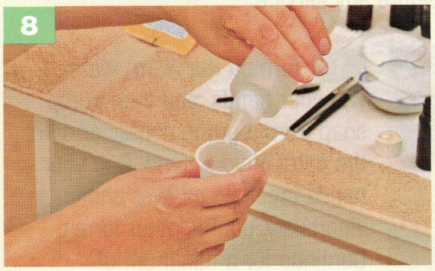
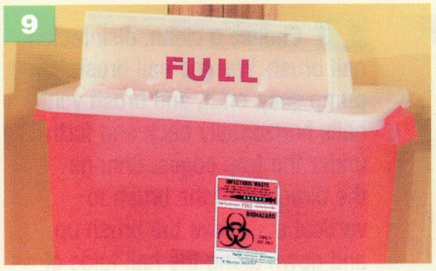
6 Wash your hands after touching a client's hair.

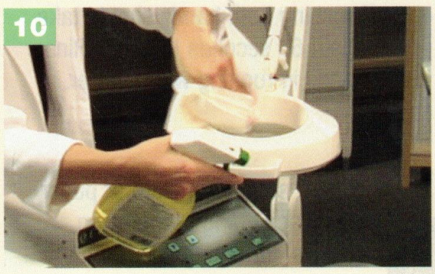
7 Put on gloves at the beginning of every treatment and wear them throughout the treatment. This is especially important during and after extraction, waxing, and the performance of microdermabrasion, skin peels, or electrolysis.



8 Remove creams and products from containers using pumps, squeeze bottles with dispenser caps, or disinfected spatulas. It is best to remove products before the treatment and place them in small disposable cups. This way, you will not have to touch bottles or jars with soiled gloved hands. Spatulas should be disinfected or discarded after each use.



9 After completing the treatment, fold linens in toward their center, then place them in a covered laundry receptacle. Throw away disposable items in a closed trash container. Place sharps in a sharps box. Disinfect or sterilize all items to be reused. Discard any unused product that has been removed from its container.



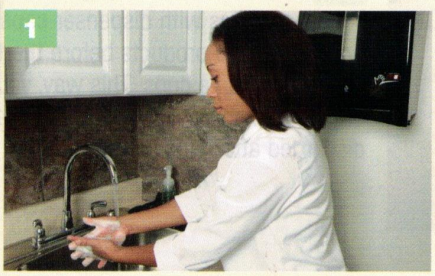
10 Wipe down all surfaces touched during treatment with a disinfectant before the next client is seated.

PROCEDURE

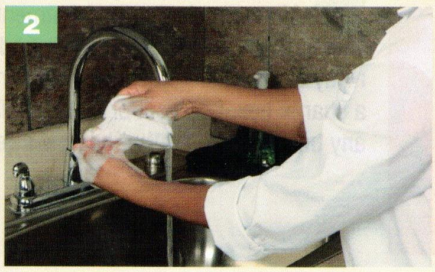
5-3

Proper Hand Washing

Hand washing is one of the most important procedures in your infection control efforts and is required in every state before any service.



1 Turn on the warm water, wet your hands, and then pump soap from a pump container onto the palm of your hand. Rub your hands together, all over and vigorously, until a lather forms. Continue for a minimum of 20 seconds.



2 Choose a clean, disinfected nail brush. Wet the nail brush, pump soap on it, and brush your nails horizontally back and forth under the free edges. Change the direction of the brush to vertical and move the brush up and down along the nail folds of the fingernails. The process for brushing both hands should take about 60 seconds to finish. Rinse hands in running warm water.

fyi

Dirty nail brushes should be stored together in a closed container until you are ready to clean and disinfect them. Then nail brushes should be properly cleaned, rinsed, dried, and immersed for the required disinfection time in a disinfectant that does not harm plastics. After they have been disinfected, rinse the brushes in clean, warm water, dry them, and place them in a clean storage location.

3 Use a clean cloth or paper towel, according to the salon policies, for drying your hands.

4 After drying your hands, turn off the water with the towel and dispose of the towel.

Review Questions

1. What is the primary purpose of regulatory agencies?
2. What is an MSDS? Where can you get it?
3. List the four types of organisms that estheticians must know about and remember.
4. What are bacteria?
5. Name and describe the two main classifications of bacteria.
6. What are some of the beneficial functions performed by nonpathogenic bacteria?
7. Name and describe the three forms of pathogenic bacteria.
8. What is a contagious disease?
9. Is HIV a risk in the salon or spa? Why or why not?
10. What is the difference between cleaning, disinfecting, and sterilizing?
11. What is complete immersion?
12. List at least six precautions to follow when using disinfectants.
13. How do you know if an item can be disinfected?
14. Can porous items be disinfected?
15. How often should disinfectant solutions be changed? How often should an AHP disinfectant be changed?
16. What are Universal Precautions?
17. What are Standard Precautions?
18. What is an exposure incident?
19. Describe the procedure for handling an exposure incident in the salon or spa.
20. Explain how to clean and disinfect nonelectrical tools and implements.
21. Explain how to clean and disinfect electrical tools and equipment.

Glossary

acquired immune deficiency syndrome	Abbreviated AIDS; a disease that breaks down the body's immune system. AIDS is caused by the human immunodeficiency virus (HIV).
acquired immunity	Immunity that the body develops after overcoming a disease, through inoculation (such as flu vaccinations), or through exposure to natural allergens such as pollen, cat dander, and ragweed.
allergy	Reaction due to extreme sensitivity to certain foods, chemicals, or other normally harmless substances.
antiseptics	Chemical germicides formulated for use on skin; registered and regulated by the Food and Drug Administration (FDA).
aseptic procedures	A process of properly handling sterilized and disinfected equipment and supplies to reduce contamination.
asymptomatic	Showing no symptoms or signs of infection.
autoclave	A device for sterilization by steam under pressure.

Glossary

bacilli	Short rod-shaped bacteria. They are the most common bacteria and produce diseases such as tetanus (lockjaw), typhoid fever, tuberculosis, and diphtheria.
bacteria (singular: bacterium)	One-celled microorganisms that have both plant and animal characteristics. Some are harmful; some are harmless.
bactericidal	Capable of destroying bacteria.
binary fission	The division of bacteria cells into two new cells called daughter cells.
bioburden	The number of viable organisms in or on an object or surface or the organic material on a surface or object before decontamination or sterilization.
bloodborne pathogens	Disease-causing microorganisms carried in the body by blood or body fluids, such as hepatitis and HIV.
body substance isolation	Abbreviated BSI; a system of precautions developed by a Seattle hospital in 1987 to prevent contact with bodily substances and fluids by using protective apparel to prevent the spread of communicable disease.
chelating soaps	Also known as *chelating detergents*; detergents that break down stubborn films and remove the residue of products such as scrubs, salts, and masks.
clean	Also known as *cleaning*; a mechanical process (scrubbing) using soap and water or detergent and water to remove all visible dirt, debris, and many disease-causing germs. Cleaning also removes invisible debris that interferes with disinfection.
cocci	Round-shaped bacteria that appear singly (alone) or in groups. The three types of cocci are staphylococci, streptococci, and diplococci.
contagious disease	Also known as *communicable disease*; a disease that is spread from one person to another person. Some of the more contagious diseases are the common cold, ringworm, conjunctivitis (pinkeye), viral infections, and natural nail or toe and foot infections.
contamination	The presence, or the reasonably anticipated presence, of blood or other potentially infectious materials on an item's surface or visible debris or residues such as dust, hair, and skin.
cross-contamination	Contamination that occurs when you touch one object and then transfer the contents of that object to another, such as touching skin, then touching a product without washing your hands.
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.
dermatophytes	A type of fungi that causes skin, hair, and nail infections.
diagnosis	Determination of the nature of a disease from its symptoms and/or diagnostic tests. Federal regulations prohibit salon professionals from performing a diagnosis.
diplococci	Spherical bacteria that grow in pairs and cause diseases such as pneumonia.
direct transmission	Transmission of blood or body fluids through touching (including shaking hands), kissing, coughing, sneezing, and talking.
disease	An abnormal condition of all or part of the body, or its systems or organs, that makes the body incapable of carrying on normal function.

Glossary

disinfectants	Chemical products that destroy all bacteria, fungi, and viruses (but not spores) on surfaces.
disinfection	Also known as *disinfecting*; the process that eliminates most, but not necessarily all, microorganisms on nonporous surfaces. This process is not effective against bacterial spores.
efficacy	The ability to produce an effect.
exposure incident	Contact with nonintact (broken) skin, blood, body fluid, or other potentially infectious materials that is the result of the performance of an employee's duties.
flagella	Also known as *cilia*; slender, hair-like extensions used by bacilli and spirilla for locomotion (moving about).
folliculitis	Also know as folliculitis barbae, sycosis barbae, or barber's itch. Inflammation of the hair follicles caused by a baterial infection from ingrown hairs. The cause is typically from ingrown hairs due to shaving or other epilation methods.
fungi (singular: fungus)	Microscopic plant parasites, which include molds, mildews, and yeasts; can produce contagious diseases such as ringworm.
fungicidal	Capable of destroying fungi.
hepatitis	A bloodborne virus that causes disease and can damage the liver.
hospital disinfectants	Disinfectants that are effective for cleaning blood and body fluids.
human immunodeficiency virus	Abbreviated HIV; a pathogen that is most often the precursor to acquired immune deficiency syndrome (AIDS). By impairing or killing the immune system affected with it, HIV progressively destroys the body's ability to fight infections or certain cancers.
human papillomavirus	Abbreviated HPV and also known as *plantar warts*; a virus that can infect the bottom of the foot and resembles small black dots, usually in clustered groups.
immunity	The ability of the body to destroy and resist infection. Immunity against disease can be either natural or acquired and is a sign of good health.
indirect transmission	Transmission of blood or body fluids through contact with an intermediate contaminated object such as a razor, extractor, nipper, or an environmental surface.
infection	The invasion of body tissues by disease-causing pathogens.
infection control	The methods used to eliminate or reduce the transmission of infectious organisms.
infectious	Caused by or capable of being transmitted by infection.
infectious disease	Disease caused by pathogenic (harmful) microorganisms that enter the body. An infectious disease may or may not be spread from one person to another person.
inflammation	Condition in which the body reacts to injury, irritation, or infection; characterized by redness, heat, pain, and swelling.
local infection	An infection, such as a pimple or abscess, that is confined to a particular part of the body and appears as a lesion containing pus.
Material Safety Data Sheet	Abbreviated MSDS; 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.

Glossary

methicillin-resistant staphylococcus aureus	Abbreviated MRSA; a type of infectious bacteria that is highly resistant to conventional treatments such as antibiotics.
microorganism	Any organism of microscopic or submicroscopic size.
mildew	A type of fungus that affects plants or grows on inanimate objects, but does not cause human infections in the salon.
motility	Self-movement.
multiuse	Also known as *reusable*; items that can be cleaned, disinfected, and used on more than one person, even if the item is accidentally exposed to blood or body fluid.
mycobacterium fortuitum	A microscopic germ that normally exists in tap water in small numbers.
natural immunity	Immunity that is partly inherited and partly developed through healthy living.
nonpathogenic	Harmless microorganisms that may perform useful functions and are safe to come in contact with since they do not cause disease or harm.
nonporous	An item that is made or constructed of a material that has no pores or openings and cannot absorb liquids.
occupational disease	Illness resulting from conditions associated with employment, such as prolonged and repeated overexposure to certain products or ingredients.
parasites	Organisms that grow, feed, and shelter on or in another organism (referred to as the host), while contributing nothing to the survival of that organism. Parasites must have a host to survive.
parasitic disease	Disease caused by parasites, such as lice and mites.
pathogenic	Harmful microorganisms that can cause disease or infection in humans when they invade the body.
pathogenic disease	Disease produced by organisms, including bacteria, viruses, fungi, and parasites.
personal protective equipment	Abbreviated PPE; protective clothing and devices designed to protect an individual from contact with bloodborne pathogens; examples include gloves, fluid-resistant lab coat, apron, or gown, goggles or eye shield, and face masks that cover the nose and mouth.
phenolic disinfectants	Powerful tuberculocidal disinfectants. They are a form of formaldehyde, have a very high pH, and can damage the skin and eyes.
porous	Made or constructed of a material that has pores or openings. Porous items are absorbent.
pus	A fluid created by infection.
quaternary ammonium compounds	Also known as *quats*; disinfectants that are very effective when used properly in the salon.

Glossary

sanitizing	A chemical process for reducing the number of disease-causing germs on cleaned surfaces to a safe level.
scabies	A contagious skin disease that is caused by the itch mite, which burrows under the skin.
single-use	Also known as *disposable*; items that cannot be used more than once. These items cannot be properly cleaned so that all visible residue is removed, or they are damaged or contaminated by cleaning and disinfecting in exposure incident.
sodium hypochlorite	Common household bleach; an effective disinfectant for the salon.
spirilla	Spiral or corkscrew-shaped bacteria that cause diseases such as syphilis and Lyme disease.
Standard Precautions	Abbreviated SP; precautions such as wearing personal protective equipment to prevent skin and mucous membrane where contact with a client's blood, body fluids, secretions (except sweat), excretions, nonintact skin, and mucous membranes is likely. Workers must assume that all blood and body fluids are potential sources of infection, regardless of the perceived risk.
staphylococci	Pus-forming bacteria that grow in clusters like a bunch of grapes. They cause abscesses, pustules, and boils.
sterilization	The process that completely destroys all microbial life, including spores.
streptococci	Pus-forming bacteria arranged in curved lines resembling a string of beads. They cause infections such as strep throat and blood poisoning.
systemic disease	Disease that affects the body as a whole, often due to under-functioning or over-functioning of internal glands or organs. This disease is carried through the blood stream or the lymphatic system.
tinea pedis	A ringworm fungus of the foot or athlete's foot.
tinea versicolor	Also known as *sun spots*; a noncontagious fungal infection which is characterized by white or varicolored patches on the skin and is often found on arms and legs.
toxins	Various poisonous substances produced by some microorganisms (bacteria and viruses).
tuberculocidal disinfectants	Disinfectants that kill the bacteria that causes tuberculosis.
tuberculosis	A disease caused by bacteria that are transmitted through coughing or sneezing.
Universal Precautions	Abbreviated UP; a set of guidelines published by OSHA that require the employer and the employee to assume that all human blood and body fluids are infectious for bloodborne pathogens.
virucidal	Capable of destroying viruses.
virus (plural: viruses)	A parasitic submicroscopic particle that infects and resides in the cells of biological organisms. A virus is capable of replication only through taking over the host cell's reproductive function.