Sanitation Techniques Part 2

Overview

The most common cause of finger- and toe-nail nail infections are fungi. Most fungal infections invade the nail plate from the sides or free margin (i.e., tip) of the nail. Fungal infections can cause the nail plate to be thickened, brittle, and, in some cases, completely destroyed. Once confirmed through microscopic examination of nail clippings, a fungal infection can be treated by a physician orally with antifungal tablets, or topically, with antifungal lotion. Treatment may last from 2 to 12 months, and the nail may not return to a normal appearance for several months post-treatment. Nail fungus usually develops on nails if they are continually exposed to warm, moist environments, such as sweaty shoes or shower floors. Fungal nail infections may be difficult to treat and periodically recur, but oral and topical medications are available to help treat them.

Onychomycosis (on-i-ko-mi-KO-sis) is a common fungal infection of the nails. It represents up to 20% of all nail disorders. This condition may affect toe- or fingernails, but toenail infections are particularly common. The prevalence of onychomycosis is about 6-8% in the adult population. The most common type of onychomycosis (80-90%) is known as tinea unguium, and is a contagious infection of the nail caused by the same fungal organism which causes ringworm of the skin. It often begins with white or yellow spots under the tips of the fingernail or toenail and can result in discoloration, thickening, chalkiness, or crumbling of the nails. Onychomycosis is often treated by powerful oral medications, although it sometimes responds to a combination of topical medication and periodic filing of the nail surface.

Symptoms

A nail infected with a fungus may display one or more of the following symptoms:

- Brittle or crumbly
- Thickened
- Distortedly shaped
- Flat or dull
- Discolored, often yellow, green, or black in color
- Onycholysis: a separation of the infected nail from the nail plate

Risk Factors

Certain groups are at heightened risk of nail fungus including:

- Older adults experience slowed and thickened nail growth making them more susceptible to infection
- Men are more likely than women to suffer from nail fungus
- Persons with a family history of fungal nail infections
- Persons with a minor skin or nail injury or another infection
- Diabetics or persons with circulation problems or a weakened immune system

In addition, there are behavioral factors that appear to increase your risk of developing a nail fungus including:

- Smoking
- Working in moist environments

- Heavily perspiring
- Wearing shoes that hamper ventilation and socks that do not sufficiently absorb sweat
- Walking barefoot in damp public places, such as swimming pools, gyms and showers

Complications

Fungal infections of the nail are often painful, can cause permanent damage to the nail, and can lead to other serious infections that can spread beyond the nails. For those with diabetes or weakened immune systems, such infections can pose very serious health risks, including the compromising of the blood and nerve supplies to hands and feet for diabetics. Even a relatively minor fungal infection of the foot can lead to more serious complications, such as open sores and ulcers that are painful and difficult to heal. If a nail fungus is suspected, seek a licensed physician immediately.

Diagnosis and Treatment

The first step to the successful treatment of a fungal nail infection is diagnosis by a licensed physician. Some non-fungal conditions, such as psoriasis, can mimic a fungal infection of the nail. In addition, other microorganisms, such as yeast and bacteria, can infect nails. To diagnose a nail fungus, the doctor generally scrapes a small amount of debris from under the nail where it is examined under a microscope and/or cultured in a laboratory to isolate the source of infection. Once properly diagnosed, a nail fungus can be difficult to cure, and recurrence is common. Your physician might suggest topical medications including:

- *Antifungal lacquer*: For a mild to moderate fungal nail infection, The Food and Drug Administration (FDA) has approved a topical antifungal lacquer called ciclopirox (Penlac).

The lacquer is painted onto the infected nail and surrounding skin once daily, and after seven days, the layers are wiped clean with alcohol and fresh applications are begun. While daily use of Penlac for one year or longer has been shown to diminish the nail fungus, research suggests that it cured the infection in less than 10 percent of patients using it.

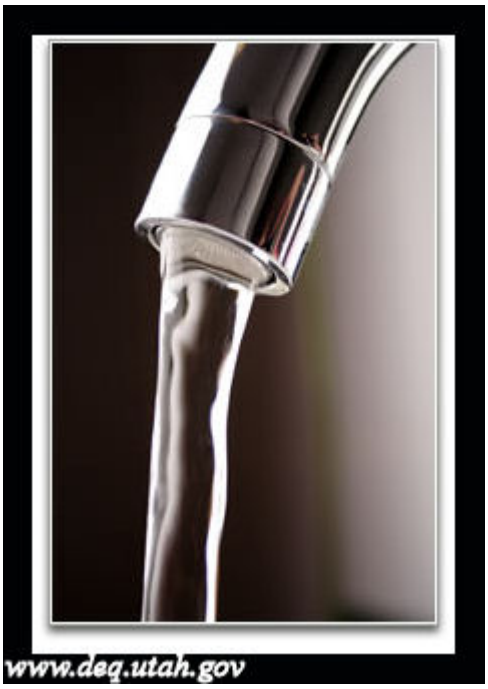
- *Other topical medications*: Your doctor may suggest other topical antifungal medications, such as econazole nitrate (Spectazole). Topical medications usually don't provide a cure but may be used in conjunction with oral medications.

Antifungal creams, lotions, and ointments are often available over-the-counter (OTC) but are not always effective. Prescribed oral antifungal medications tend to be more effective and include: Itraconazole (Sporanox), Fluconazole (Diflucan), and Terbinafine (Lamisil). These medications work by allowing new nail growth to be free of infection with the course of treatment generally lasting between 6 and 12 weeks. Possible side effects to oral antifungal medication range from skin rashes to liver damage, therefore doctors may not recommend these drugs for persons with liver disease or congestive heart failure.

Finally, if your nail infection is severe or extremely painful, your doctor may suggest removing the nail. A new nail will usually grow in its place.

Prevention

Because fungal nail infections can be hard to treat and cure permanently, the best course of action is prevention. The prevention of nail fungus starts with proper hand and foot hygiene including the following rules.



The Do's of Hand and Foot Hygiene:

- Thoroughly dry hands, feet, and between toes after bathing and swimming
- Nails should be kept short, dry, and clean, and trimmed straight across. Thickened areas of nails should be filed down
- Wear synthetic socks that wick away moisture may keep your feet dryer than do cotton or wool socks and change them often, especially if your feet sweat excessively
- Take your shoes off occasionally during the day and after exercise. Alternate closed-toe shoes with open-toed shoes
- Use an antifungal spray or powder on your feet and inside your shoes
- Avoid overexposure of your hand in water. Use rubber gloves
- Choose a reputable manicure and pedicure salon. Make sure the salon sterilizes its instruments
- Wash your hands after touching an infected nail. Nail fungus can spread from nail to nail

The Dont's of Hand and Foot Hygiene:

- Don't trim or pick at the skin around your nails. This may give the fungus (as well as bacteria) access to your skin and nails

- Don't go barefoot in public places**.** Wear shoes around public pools, showers and locker rooms
- Don’t wear nail polish or artificial nails**.** Although it may be tempting to hide fungal infections under a coat of nail polish, this can trap unwanted moisture and worsen the infection

Viruses

Though less common than bacteria or fungi, viruses still present a danger in any environment in which human activities may result in exposure to blood or other bodily fluids. A virus is a submicroscopic parasitic particle that infects cells in biological organisms. The study of viruses is virology.

Viruses are obligate intracellular parasites that lack the cellular machinery for self-reproduction. Viruses infect eukaryotes and prokaryotes such as bacteria; viruses infecting prokaryotes are also known as *bacteriophages* or *phages*. Viruses typically carry a small amount of genetic material, either in the form of DNA or RNA, surrounded by some form of protective coat consisting of some combinations of proteins, lipids, glycoproteins. The viral genome codes for the proteins that constitute this protective coat, as well as for those proteins required for viral reproduction that are not provided by the host cell.

Viruses can only reproduce by using a host organism to replicate the viral RNA or DNA. Viruses are considered non-living by the majority of virologists, because they do not meet all the criteria of the generally accepted definition of life. It is debatable whether viruses are living, because other animals such as mules can't reproduce, but are widely considered living. Among other factors, viruses do not move or metabolize on their own. However, a comprehensive

definition of life is still somewhat elusive since some bacteria (considered living) such as rickettsia exhibit both characteristics of living and non-living particles.

A virus particle, known as a virion, is little more than a gene transporter, consisting at the most basic level of a genome contained within a protective casing of protein. The nucleic acid genome varies among different viruses and may be either DNA or RNA; single- or double-stranded; linear or circular; and positive or negative sensed. The genetic material is surrounded and thus encapsulated by a protective coat of protein called a capsid. This capsid is composed of proteins encoded by the viral genome and may be either spherical or helical. These proteins are associated with the nucleic acid thus are known as nucleoproteins, the combined partnership of nucleoproteins and nucleic acid producing what is known as a nucleocapsid.

In addition to a capsid, some viruses are able to hijack a modified form of the plasma membrane surrounding an infected host cell, thus gaining an outer lipid bilayer known as a viral envelope. This extra membrane is studded with proteins synthesized by the host cell, which the virus may have modified at a genetic level. This gives the virion a few distinct advantages over "naked" virions—the plasma membrane provides a degree of protection for the virus, especially from harmful agents such as enzymes and chemicals. The proteins studded upon it include glycoproteins, which serve as receptor molecules, allowing healthy cells to recognize virions as "friendly" and resulting in the possible uptake of the virion into the cell.

Helical capsids are composed of identical proteins stacked at a constant amplitude and pitch to one another around a central circumference, much like a spiral staircase, which effectively forms an enclosed tube housing the genetic material. This arrangement results in rod-shaped virions which can either be short and rigid or long and flexible; the nature of long helical particles necessitates flexibility, as they are prone to damage if they are too rigid.

Spherical virus capsids completely enclose the viral genome and do not generally bind as tightly to nucleic acid as helical capsid proteins do. These structures can range in size from less than 20 nanometers up to 400 nanometers and are composed of viral proteins arranged with icosahedral symmetry, hence are not truly "spherical." Icosahedral architecture is the same principle employed by R. Buckminster-Fuller in his geodesic dome, and it is the most efficient way of creating an enclosed robust structure from multiple copies of a single protein. The number of proteins required to form a spherical virus capsid is denoted by the "T-number," where $60 \times t$ proteins are necessary. In the case of the Hepatitis B virus (i.e., HBV), the T-number is 4, therefore 240 proteins assemble to form the capsid. Many spherical viruses forgo a lipid envelope, leaving the capsid proteins to be directly involved in attachment and entry into the host cell.

Viral populations do not grow through cell division, because they are acellular; instead, they use the machinery and metabolism of a host cell to produce multiple copies of themselves. Once inside an organism, the virus can enter a cell in various ways. Bacterial viruses (i.e., bacteriophages) attach to the cell wall surface. Enzymes make a tiny hole in the cell wall where the virus injects its DNA into the cell. Other viruses, such as HIV, enter the host through endocytosis (the process by which cells take in material from the external environment). Upon cell entry, the virus's genetic material begins the process of causing the host cell to produce new viruses.

Common Viruses Found in Humans

The relative ability of viruses to cause disease is described in terms of virulence. Examples of diseases caused by viruses include the common cold, which is caused by any one of a variety of

related viruses; smallpox; AIDS, which is caused by HIV; and cold sores, which are caused by herpes simplex. Other connections are being studied such as the connection between Human Herpesvirus Six (HHV6), one of the eight known members of the human herpes virus family, and organic neurological diseases such as multiple sclerosis and chronic fatigue syndrome. Recently it has been shown that cervical cancer is caused at least partly by papillomavirus (which causes papillomas, or genital warts), representing the first significant evidence in humans for a link between cancer and an infective agent. Currently, there is controversy over whether borna virus, previously thought of primarily as the causative agent of neurological disease in horses, could be responsible for psychiatric illness in humans.

The ability of viruses to cause devastating epidemics in human societies has led to concern that viruses will be weaponized for biological warfare. Further concern was raised by the successful re-creation of viruses in the laboratory. Much concern revolves around the smallpox virus, which has devastated numerous societies throughout history, but today is extinct outside of the laboratory environment.

Native American populations were ravaged by contagious diseases, particularly smallpox, brought to the Americas by European colonists. It is unclear how many Native Americans were killed by smallpox after the arrival of Columbus in the Americas, but the numbers have been estimated to be around 90% of the Indian population. The damage done by this disease may have significantly aided European attempts to displace or conquer the native population. Jared Diamond argued in his book *Guns, Germs, and Steel* that highly contagious diseases develop in

agricultural societies and regularly aid those societies when they expand into the territories of non-agricultural peoples.

A number of highly lethal viral pathogens are members of the Filoviridae. The Filovirus group consists of Marburg, first discovered in 1967 in Marburg Germany, and Ebola. Filovirus are long, worm-like virus particles that, in large groups, resemble a plate of noodles. In April 2005, the Marburg virus attracted worldwide press attention for an outbreak in Angola. Beginning in October 2004 and continuing into 2005, the outbreak was the world's worst epidemic of any kind of hemorrhagic fever to date.

A new type of virus discovered in 2003 has been termed Mimi virus, for the term "mimic virus", for its resemblance, in some respects, to bacteria. The giant virus, over tenfold larger than common viruses, is being examined as a possible link between viruses and “traditional” life forms, by way of bacteria.

Because they use the machinery of their host cells to reproduce, viruses are difficult to eliminate. The most effective medical approaches to viral diseases, thus far, are vaccination to provide resistance to infection, and drugs that treat the symptoms of viral infections. Patients often ask for, and physicians often prescribe, antibiotics, which are useless against viruses, and their misuse against viral infections is one of the causes of antibiotic resistance to bacteria in humans. That said, sometimes, in life-threatening situations, the prudent course of action is to begin a course of antibiotic treatment while waiting for test results to determine whether the patient's symptoms are caused by a virus or a bacterial infection.

Viruses Likely to be Present in the Salon Environment

The following is an adaptation from Dr. Carolyn Siegal's Collection at

www.drcarolyncollection.com

Plantar Verrucae (Warts)

Plantar warts (verrucæ pedis; also commonly referred to as a Verruca) are warts caused by the human papilloma virus (HPV). They are small lesions that appear on the sole of the foot (hence the name, from Latin planta pedis, the sole of the foot) and are typically cauliflower-esque in appearance. They may have small black specks within them that ooze blood when the surface is shaved; these are abnormal capillaries. Though plantar wart refers specifically to HPV infection on the sole of the foot, infection by the virus is possible anywhere on the body and common especially on the palm of the hand, where the appearance of the wart is often exactly as described above for plantar warts. Due to pressure on the soles of the feet, a layer of hard skin forms over the wart. A plantar wart may or may not be painful. It can be spread in communal showers, around swimming pools, and from nail salon foot spas and nail salon instruments. Nail salon implements can transmit this virus to your nail folds as your aesthetician is cutting your cuticles. The difference between plantar warts and warts located elsewhere on the body is the fact that warts are generally outgrowth type lesions, but on the bottom of the foot they are pushed inward due to the pressure of walking. In addition, the skin on the bottom of the foot tends to be thicker than skin elsewhere, making the treatment of plantar warts more difficult. Therefore, medical management of plantar warts is lengthy and often requires multiple modes of treatment to fully eradicate the virus, including freezing (i.e., cryotherapy), burning, acid treatments, injections of chemotherapy drugs (e.g., bleomycin), surgical excision, and immunotherapy.

Herpetic Whitlow (Herpes Infection)

An infection caused by the herpes virus, herpetic whitlow is spread through personal contact. Torn cuticles or dry excoriations around the nail allow for easier transmission. This disease can be a result of salon manicures and pedicures. Symptoms include red, painful blisters. Topical antivirals, particularly topical acyclovir, have been shown to be effective in decreasing the duration of symptoms.

Hepatitis

Hepatitis is inflammation of the liver. The clinical signs, prognosis, and treatment depend on the cause. Symptoms include malaise, joint aches, abdominal pain, vomiting 2-3 times per day for the first 5 days, loss of appetite, dark urine, fever, hepatomegaly (enlarged liver) and jaundice (icterus, yellowing of the eyes and skin). Some chronic forms of hepatitis show very few of these signs and are only present when the longstanding inflammation has led to the replacement of liver cells by connective tissue; this disease process is referred to as cirrhosis of the liver. Certain liver function tests can also indicate hepatitis.

Hepatitis B (HBV) and C (HCV) are bloodborne viruses that lead to fatal scarring (cirrhosis) and cancer of the liver. The infection spreads when infected blood of one individual enters the body of another.

Hepatitis B is caused by a hepadnavirus, which can cause both acute and chronic hepatitis. Chronic hepatitis develops in the 15% of patients who are unable to eliminate the virus after an initial infection. Identified methods of transmission include blood (blood transfusion, now rare), tattoos (both amateur and professionally done), sexually (through sexual intercourse or through contact with blood or bodily fluids), in utero (from mother to her unborn child, as the virus can cross the placenta), and shared or unclean razors, cuticle nippers, cuticle pushers, and emery

boards. However, in about half of cases the source of infection cannot be determined. Blood contact can occur by sharing syringes in intravenous drug use, shaving accessories such as razor blades, or touching wounds on infected persons. *Hepatitis C* can be transmitted through contact with blood (including through sexual contact where the two parties' blood is mixed). Hepatitis C may lead to a chronic form of hepatitis, culminating in cirrhosis. The reason HCV so often goes undetected is because of its refusal to signal its host; it can remain asymptomatic for 10-20 years. The American Association of Dermatology notes that the hepatitis virus can remain viable on metal nail implements for as long as one week. It is not uncommon for small breaks in the skin to occur during manicures and pedicures, or for clients to come to a manicure or pedicure with tiny breaks in their skin about which they are unaware. Because microscopic blood contact is all that is necessary, transmission of hepatitis can occur if a cuticle pusher or nipper has contacted a break in the skin of an infected person and then is used on another customer's cuticles causing a cut or tear.

The U.S. Centers for Disease Control and Prevention (CDC) in Atlanta, GA estimates that 1.25 million Americans are chronically infected with HBV, while 3.2 million Americans are chronically infected with HCV. As many as three-fourths of those infected with HCV do not know they carry it. College students are especially at risk for HCV, with the highest infection rate of HCV among people between the ages of 20 to 39. Even more startling, the CDC predicts that if the virus continues to spread at its current rate, in ten years it will reach pandemic proportions, killing 30,000 Americans per year.

Disease Symptoms

The disease, for which there is no vaccine, is spread through direct contact with the blood of an infected individual. Occasionally, sufferers will experience symptoms such as muscle aches, fatigue, abdominal pain, intermittent nausea and vomiting. More commonly, however, the disease remains silent until the liver has endured a viral beating severe enough to leave it with irreversible damage, which can take the form of liver disease, cirrhosis and even cancer.

HCV is largely asymptomatic, and when symptoms do occur, they are usually attributed to other causes and go unchecked. Hepatitis C will occasionally pop up in routine lab tests via elevated liver-enzyme levels, but even the most cautious doctors often chalk the heightened levels up to inadequate sleep or the effects of a beer if the patient appears to be otherwise healthy. A test called an enzyme immunoassay (EIA) can be administered to determine whether a person has HCV, though unless a patient is deemed at risk, it is usually forgone.

It is staggeringly difficult to tell who is infected with HCV. Therefore, anyone who has ever come into contact with other human blood is at a small risk of contracting the disease. Patricia Buchanan, co-facilitator of LiverHope, a support group for patients of liver diseases, warns that unlike HIV, the hepatitis C virus does not die upon exposure to the air. Rather, it can live and remain infectious for an undetermined amount of time outside of a host.

"The jury is still out on how long that is," Buchanan said. "I've read anywhere from 48 hours to six months." Risk factors at a much larger risk are intravenous drug users, health care workers, hemodialysis patients, persons with multiple sex partners, blood transfusion recipients prior to July 1992, recipients of clotting factors made prior to 1987, and infants born to HCV-positive mothers.

A major problem in spotting the virus is that so many people are either unaware they are at risk or have forgotten that they participated in risky behaviors in the past. The disease was not

discovered until the early 1980s, thus escaping the attention of those who were members of risk groups in the 1960s and 1970s -- a time of widespread infection, due to widespread drug use and unsafe blood transfusions. Helen Clark, Buchanan's co-facilitator of LiverHope, contracted HCV after a series of blood transfusions in 1970. Contaminated blood used in transfusions is the culprit in at least 20 percent of cases.

"There are literally hundreds of thousands of people between the ages of 16 and 20 who are finding out (that they have HCV)," Clark said. These are people who were born prematurely or with a low birth weight and received blood during the first weeks of their lives. "They had essentially a little blood transfusion every day," Clark said. Other risk factors that both Clark and Buchanan fear will be responsible for a whole new crop of infections include tattooing and body piercing. Clark suggests having any piercings done at a dermatologist's office, where conditions are safer. Alcohol and disinfectants used by piercers kill bacteria, but unfortunately, viruses remain.

"Even getting your ears pierced in a mall is a risk," Buchanan said, because of the blood backsplash that comes with the piercing guns. "Anyone who's had their ears pierced in a mall should be tested." Piercing and tattooing instruments should be autoclaved to ensure sterility, and even then, for tattoos, a new jar of ink must be used on each person, as HCV can live inside used ink. "People are taking their chances on getting tattoos," Clark said.

Hair and nail salons also pose a risk for spreading HCV. For example, Minnesota state regulations for hair salons include disinfecting equipment but nothing to prevent the spread of viruses. In nail salons, blood can be present as well. The removal of acrylic nails involves the use of a grinder, which almost always draws a very small amount of blood, leading to a wealth of opportunities to spread the disease.

RECOMMENDED SANITATION GUIDELILNES

SANITARY RATINGS AND POSTING OF RATINGS

(a) The sanitary rating of a beauty establishment shall be based on a system of grading outlined in this Subchapter. Based on the grading, all establishments shall be rated in the following manner:

(1) all establishments receiving a rating of at least 90 percent or more, shall be awarded a grade A;

(2) all establishments receiving a rating of at least 80 percent, and less than 90 percent, shall be awarded grade B;

(3) all establishments receiving a rating of at least 70 percent or more, and less than 80 shall be awarded grade C.

(b) Every beauty establishment shall be given a sanitary rating. A cosmetic art school shall be graded no less than three times a year, and a cosmetic art salon shall be graded once a year.

(c) The sanitary rating given to a beauty establishment shall be posted in a conspicuous place at all times.

(d) The willful operation of a beauty establishment which fails to receive a sanitary rating of at least 70 percent (grade C) shall be sufficient cause for revoking or suspending the letter of approval or permit.

(e) A re-inspection for the purpose of raising the sanitary rating of a beauty establishment shall not be given within 30 days of the last inspection, unless the rating at the last inspection was less than 80 percent.

(f) A pedi-spa unit sanitation record must be kept for inspection on a form provided by the Board.

WATER SUPPLY

A beauty establishment shall have a supply of running hot and cold water in the clinic area, approved by the local health department.

FLOOR COVERINGS

All floor coverings shall be washable and kept clean and in good repair.

VENTILATION AND LIGHT

(a) All doors and windows shall be kept clean and, if open for ventilation, effectively screened.

(b) Necessary ventilation shall be provided at all times. In the clinic areas of all cosmetic art schools and in the areas where patrons are serviced in all cosmetic art shops; there must be an adequate, continuous exchange of air.

(c) Adequate light shall be provided for each operator.

BATHROOM FACILITIES

(a) Toilet and hand washing facilities consisting of at least one commode and one lavatory with hot and cold running water, soap and individual towels shall be provided.

(b) A residential beauty salon shall furnish bathroom facilities separate and apart from the residence.

CLEANLINESS OF OPERATORS

(a) All operators and students shall be personally clean and neat.

(b) Every person employed in a beauty establishment shall wear clean, washable outer garments with sleeves while serving patrons.

(c) Each licensee and student shall wash his or her hands with soap and water or an equally effective cleansing agent immediately before and after serving each client.

CLEANLINESS OF CLINIC AREA: SUPPLIES AND IMPLEMENTS: COMBS AND BRUSHES

(a) The clinic area shall be kept clean.

(b) Waste material shall be kept in covered receptacles. The area surrounding the waste receptacles shall be maintained in a neat and sanitary manner.

(c) Sanitation rules which apply to towels and cloths are as follows:

(1) Separate and clean protective drapes, linens and towels shall be used for each patron.

(2) After a protective drape, linen or towel has been used once; it shall be discarded and placed in a clean, closed container until laundered.

(3) There shall be an adequate supply of clean protective drapes, linens and towels at all times.

(4) All capes used on patrons shall not be allowed to come in direct contact with the patron's neck.

(5) Clean drapes, linens and towels shall be stored in a clean closed container when not in use.

(d) At least six combs and brushes shall be provided for each cosmetology operator and cosmetology student.

(e) All combs, brushes, and implements shall be cleaned and disinfected after each use in the following manner:

(1) They shall be soaked in a cleaning solution that shall not leave a residue and, if necessary, scrubbed.

(2) They shall be disinfected in accordance with the following:

(A) EPA registered, hospital/pseudomonacidal (bactericidal, virucidal, and fungicidal) and tuberculocidal, that is mixed and used according to the manufacturer's directions; or

(B) household bleach in a 10 percent solution for 10 minutes.

The disinfectant shall not shorten the service life of the comb, brush, esthetics or manicuring instrument. In using a disinfectant, the user shall wear any personal protective equipment, such as gloves, recommended in the Material Safety Data Sheet prepared on the disinfectant manufacturer.

(3) They shall be rinsed with hot tap water and dried with a clean towel before their next use. If they are not used immediately, they shall be stored in a clean, closed cabinet or container until they are needed.

(f) Disposable and porous implements must be discarded immediately after use.

CLEANLINESS OF SCISSORS: SHEARS: RAZORS AND OTHER EQUIPMENT

(a) All scissors, shears, razors, and other metal instruments must be cleaned and disinfected after each use in the following manner:

(1) If the implement is not immersible, it shall be cleaned by wiping it with a clean cloth moistened or spraying with a disinfectant, used in accordance with the manufacturer's instructions, that states the solution will destroy HIV, TB or HBV viruses and approved by the Federal Environmental Protection Agency.

(2) If it is immersible, it shall be disinfected by immersion and whenever it comes in contact with blood, with:

(A) disinfectant, used in accordance with the manufacturer's instructions, that states the solution will destroy HIV, TB or HBV viruses and approved by the Federal Environmental Protection Agency.

(B) EPA registered, hospital/pseudomonacidal (bactericidal, virucidal, and fungicidal) and tuberculocidal, that is mixed and used according to the manufacturer's directions; or

(C) household bleach in a 10 percent solution for 10 minutes.

(3) If the implement is not used immediately after cleaning, it must be stored in a clean, closed cabinet until it is needed.

(b) Furniture, equipment and fixtures must be of a washable material and kept clean and in good repair.

(c) Lancets, disposable razors, and other sharp objects shall be disposed in puncture-resistant containers.

CARE OF CREAMS: LOTIONS: AND COSMETICS

All creams, lotions, and other cosmetics used for patrons must be kept in clean, closed containers, and must conform in all respects to the requirements of the Pure Food and Drug

Law. Lotions, or fluids must be poured into a clean glass or other sanitized container and applied to patrons by means of cotton or other sanitized methods.

FIRST AID

Each beauty establishment must have antiseptics and other necessary supplies available to provide first aid when necessary.

HEALTH OF OPERATORS

ANIMALS

Animals and birds shall not be kept in a beauty establishment. Trained animals accompanying sightless or hearing impaired persons are exempt.

SYSTEMS OF GRADING BEAUTY ESTABLISHMENTS

The system of grading the sanitary rating of cosmetic art schools and shops based on the rules set out in 21 NCAC 14H .0106 to .0117 shall be as follows, setting out areas to be inspected and considered, and the maximum points given for compliance:

(1) clean and repaired entrance and reception room 2;

(2) general condition of the entire establishment 8;

(3) water system; hot and cold running water 2;

(4) walls, ceiling and floors:

(A) construction and coverings 4;

(B) clean 4;

(C) good repair 3;

(5) lighting and fresh continuous ventilation (windows included); their adequacy and cleanliness 3;

(6) public toilet:

(A) clean and ventilated 5;

(B) liquid soap and individual towels furnished 5;

(C) hot and cold running water 2;

(7) appearance of operators and students 4;

(8) linens:

(A) supply of clean drapes, linens and towels stored in clean closed containers 2;

(B) soiled drapes, linens and towels properly stored in closed containers 3;

(9) waste in closed containers and clean area 4;

(10) equipment cleanliness:

(A) disinfectants selected from those approved by the Federal Environmental Protection Agency 6;

(B) disinfectants used properly 5;

(C) all implements cleaned, disinfected, and properly stored 12;

(D) furniture, fixtures, and equipment clean and in good repair 7;

(11) working area:

(A) workstation clean 4;

(B) lavatories clean 4;

(C) jars and containers closed, clean and disinfected 2;

(D) no unnecessary articles in work area 2;

(12) antiseptics and first aid supplies on hand 1;

(13) cosmetics:

(A) clean and sanitary conditions 2;

(B) storage area for supplies clean and in order 3;

(14) no animals or birds kept or allowed in the establishment except as provided by Rule .0117 of this Subchapter.

FOOTSPA SANITATION

Manicurists and Cosmetologists shall use the following disinfection procedures to ensure proper cleaning and maintenance of any footspa equipment and to prevent bacterial infection:

(1) Between each customer a manicurist or cosmetologist shall:

(a) drain all water and remove all debris from the footspa;

(b) clean and scrub the surfaces and walls of the footspas with a scrub-brush and soap or detergent and rinse with clean, clear water; and

(c) disinfect with an EPA registered, hospital/pseudomonacidal (bactericidal, virucidal, and fungicidal) and tuberculocidal disinfectant, used according to the manufacturer's instructions.

(2) At the end of the day a manicurist or cosmetologist shall:

(a) remove the screen. All debris trapped behind the screen of each footspa shall be removed, and the screen and the inlet shall be washed with soap or detergent and water;

(b) before replacing the screen wash the screen with a chlorine bleach solution of one part bleach to 10 parts water, or totally immerse the screen in an EPA registered disinfectant;

(c) fill the footspa tub with five gallons of water and four cups of five per cent bleach solution; or

(d) disinfect with an EPA registered, hospital/pseudomonacidal (bactericidal, virucidal, and fungicidal) and tuberculocidal disinfectant, used according to the manufacturer's instructions;

(e) circulate the solution through the footspa system for no less than 10 minutes;

(f) let the solution sit overnight (at least six hours);

(g) drain and flush the system the following morning; and

(h) make a record of the date/time of this cleaning and disinfecting, on a form provided by the Board. The record for the last 90 days shall be accessible upon client or Board inspector request.

PROHIBITED PRACTICES

(a) Licensed cosmetologists, estheticians, and manicurists shall not use or possess in a shop any of the following products:

(1) Methyl Methacrylate Liquid Monomer a.k.a. MMA;

(2) Razor-type callus shavers designed and intended to cut growths of skin such as corns and calluses;

(3) Permanent makeup, defined as beautifying the face by inserting or implanting facial cosmetic pigment under the surface of the skin or mucosa; or

(4) FDA rated Class III devices.

(b) Class II devices may be used by licensees while under the direct supervision of a licensed physician.