INFECTION CONTROL STANDARDS FOR THE PRACTICE OF ELECTROLOGY

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PREFACE

The American Electrology Association's Infection Control Standards for the Practice of Electrology were chosen primarily for their acknowledged importance to infection control. Some standards are based on well-documented epidemiologic studies, while others are based on a reasonable theoretical rationale. Advanced research studies and theoretical rationale are continually revealing pertinent information relevant to these standards; therefore, revisions and additions will be made as necessary.

The Standards are consistent with Standard Precautions for infection control as recommended by the Centers for Disease Control and Prevention (CDC). Standard Precautions synthesize the major features of Universal (Blood and Body Fluid) Precautions (designed to reduce the risk of transmission of blood-borne pathogens) and Body Substance Isolation (designed to reduce the risk of transmission of pathogens from moist body substances). Standard Precautions apply to (1) blood; (2) all body fluids, secretions, and excretions, regardless of whether they contain visible blood; (3) non-intact skin; and (4) mucous membranes. Standard Precautions are designed to reduce the risk of transmission of both recognized and unrecognized sources of infection.

The Standards have been developed for use by electrologists and electrology instructors and emphasize the need 1) to consider all clients as potentially infectious 2) to adhere to infection control precautions for minimizing the risk of exposure to blood or body fluids of all clients, and 3) to reduce the risk of transmission of infection and disease from client to client, practitioner to client, and client to practitioner.

Voluntary compliance with these standards in the absence of state regulations is encouraged. Adherence to the Standards will assist electrologists and electrology instructors to develop appropriate infection control practices, to develop a practical aseptic conscience, and to promote awareness for sanitary measures.

State boards regulating the practice of electrology are encouraged to consider adoption of the Standards, and professional associations should promote members' voluntary compliance with the Standards. Both state boards and professional associations are encouraged to present continuing education seminars, lectures, and literature reviews to assist practitioners and instructors in developing a knowledge base on infection control and client safety, thereby protecting the public and the practitioner.

NEED FOR STANDARDS

The American Electrology Association's Infection Control Standards will assist and encourage the practitioner to:

1. Develop a knowledge base of infection control and client safety.
2. Develop a practical aseptic conscience.
3. Maintain a state of cleanliness to minimize the transmission of microorganisms.
4. Demonstrate expert skills in cleaning and sterilizing reusable instruments and disposal of used needles.
5. Make sound professional judgments and decisions.
6. Provide high quality client care.
7. Participate in continuing education.
8. Foster ongoing quality improvement of client care.

DEFINITION OF TERMS

For the purpose of these Standards, the following definitions are used:

alcohol-based hand rub
The alcohol-containing preparation designed for application to the hands for reducing the number of viable microorganisms on the hands. In the United States, such preparations usually contain 60%—95% ethanol or isopropanol. Formulations include foams, gels and liquid rinses. These products do not remove soil, but can be used for hand-antisepsis.

antiseptic
A germicide used on skin or living tissue to inhibit or destroy microorganisms. The chemicals and concentrations used for antisepsis are not typically the same as those used for disinfection; therefore, antiseptic products are not appropriate in any instance for use in cleaning or disinfecting inanimate substances. Antiseptics are regulated by the Food and Drug Administration (FDA).

aseptic technique
The term used to describe the precautionary measures taken to help reduce the risk of post treatment infections by decreasing the opportunity of microorganisms to enter the body. These procedures will also help reduce the electrologist's risk of exposure to pathogens. Examples of aseptic technique are appropriately timed handwashing, disinfection/sterilization of inanimate surfaces or instruments, appropriate use of personal protective clothing or barriers, proper containment and disposal of waste, consistent personal and instrument/surface manipulations to minimize cross contamination.

autoclave (steam sterilizer)
A vessel used for sterilization by application of saturated steam under pressure and heat. Autoclaves are regulated by the FDA.

biological indicator
A commercially prepared device with a known population of highly resistant bacterial spores used to test the method of sterilization being monitored. The indicator is used to demonstrate that conditions necessary to achieve sterilization were met during the cycle being monitored. Biological indicators are regulated by the FDA.

chemical indicator
The item used to monitor certain parameters of a heat sterilization process by means of a characteristic color change, usually chemically treated paper strips. A chemical indicator does not indicate that sterilization has been achieved, and most indicate only that the temperature needed has been attained. Other types of chemical indicator are capable of "integrating" time at a particular temperature before color change. Chemical indicators are regulated by the FDA.

cleaning
The removal of all visible residual material from objects using friction, detergent and water to remove organic debris. Thorough cleaning is an absolute must prior to disinfection and sterilization procedures.

contaminated
The presence of potentially infectious pathogenic micro-organisms on animate or inanimate objects.

critical items
Instruments or objects that will come in direct contact with the bloodstream or other normally sterile areas of the body. Critical items must be either pre-sterilized and disposable or subjected to sterilization before use.

decontamination
Use of physical or chemical means to remove, inactivate, or destroy pathogens on a surface or item so that they are no longer capable of transmitting infectious particles and the surface or item is rendered safe for handling, use, or disposal.

disinfectant
A chemical agent used on hard inanimate surfaces and objects to destroy or irreversibly inactivate infectious fungi and bacteria but not necessarily their spores. Chemical disinfectants are classified as "high-level," "intermediate-level," and "low-level" according to their comparative levels of potency and intended uses, but not as a final step in reprocessing of instruments.

disinfection
A procedure that reduces the level of microbial contamination. There is a broad range of activity that extends from sterility at one extreme to a minimal reduction in the number of microbial contaminants at the other.

high-level disinfection
The disinfection process that inactivates some, but not necessarily all, bacterial spores. This powerful process will also kill M. tuberculosis var. bovis, (a resistant laboratory test organism used to classify the potencies of disinfectant chemicals), as well as other bacteria, fungi, and viruses. High-level disinfection is the minimum treatment recommended by the CDC in guidelines for the reprocessing of semi-critical instruments or devices. Examples of high-level disinfectants include glutaraldehyde-, chlorine dioxide-, hydrogen peroxide, orthophthalaldehyde-, and peracetic acid-based formulations. These are commercially available germicides that have been cleared by the FDA as sterilants/disinfectants (all but one product to date) or simply as "high-level disinfectants."

intermediate-level disinfection
A disinfection process capable of killing M. tuberculosis var. bovis, but not bacterial spores. When using a process that kills M. tuberculosis var. bovis, you will also inactivate organisms with a lesser degree of intrinsic resistance, such as most vegetative bacteria and fungi as well as viruses such as hepatitis B virus (HBV) and HIV. Examples of intermediate-level disinfectants include alcohols (70 to 90% ethanol or isopropanol), chlorine compounds (free chlorine, i.e., hypochlorus acids derived from sodium or calcium hypochlorite), and certain phenolic or iodophor preparations, depending on formulation. Intermediate-level disinfectants are regulated by EPA.

low-level disinfection
A process capable of inactivating most bacteria, some viruses and fungi but not bacterial spores or Mycobacterium tuberculosis var. bovis. Examples of low-level disinfectants are quaternary ammonium compounds and certain iodophors or phenolics. Like intermediate-level products, low-level disinfectants are regulated by EPA and are appropriate for disinfecting environmental or medical equipment (non-instrument) surfaces.

dry heat sterilizer
A forced air oven-type device specifically designed to sterilize items by exposure to high temperatures for designated exposure periods. Dry heat sterilizers are regulated by the FDA.

electrology/electroepilation
The procedure of using a needle with electrolysis, thermolysis or blended currents for permanent hair removal.

environmental surfaces
Includes surfaces in the electrology treatment room, which may potentially contribute to cross-contamination by hands of the electrologist or by contact with instruments that will subsequently come into contact with clients. These surfaces should be properly maintained to minimize their potential role in disease transmission.

enzyme detergent
The detergent that helps break down organic soils and fats, and suspends particles during cleaning. An enzyme detergent is used as a soaking solution for critical and non-critical instruments and as the detergent used in the ultrasonic device. Temperature and dilution affect the efficacy of enzyme detergents.

epilator cords
Insulated plastic covered cords used to complete current circuit between the epilator and the epilator needle or the indifferent electrode. Epilator cords are non-critical items.

forceps
The instrument or "tweezer" used in electrology treatments to lift the hair from the follicle.Forceps used in electrology are not intended to be critical items, but may come in contact with blood, serum or other material and should be sterile when used.

gloves
Coverings for the hands made of various materials, which provide a protective barrier against infections and toxic substances. There are three types of gloves that can be used by electrologists:
- Non-sterile, medical grade, disposable patient examination gloves, made of natural rubber latex or synthetic material, are worn during electrology treatments and during cleaning procedures to provide a barrier to prevent exposure to potentially infectious materials and other contaminants. Medical grade gloves are regulated by the FDA.
- Food-handler gloves may be worn as a protective disposable barrier over exam gloves during treatment interruption to prevent contamination from touching objects such as drawer and doorknobs, phone receivers, computer keyboards, or pens and charts. They are not worn for treatment or decontamination procedures. Over-gloves are discarded after each use.
- General purpose, heavy-duty, reusable, puncture resistant utility (e.g., rubber household) gloves may be used for housekeeping chores such as instrument cleaning and decontamination procedures that involve potential contact with blood. These gloves are washed and dried between each use and should be labeled for use by one individual. They should be discarded when showing evidence of deterioration. Utility gloves are not promoted for medical use; therefore, are not regulated by the FDA.

hand hygiene
The general term that applies to:
- Handwashing - The decontamination process for the removal of soil and transient microorganisms from the hands by a vigorous rubbing together of all surfaces of lathered hands for at least 15 seconds, followed by rinsing under a stream of water.
- Antiseptic handwash - Washing hands with water and soap or other detergents containing an antiseptic agent.
- Antiseptic hand rub - Applying an antiseptic hand rub product, (e.g. alcohol-based hand rub) to all surfaces of the hands to reduce the number of microorganisms present.
- Surgical hand antisepsis - Antiseptic handwash or antiseptic hand rub performed preoperatively by surgical personnel to eliminate transient and reduce resident hand flora. Antiseptic detergent preparations often have persistent antimicrobial activity.

hospital disinfectant
A chemical germicide with label claims for effectiveness against Salmonella choleraesuis, Staphylococcus aureus and Pseudomonas aeruginosa. Hospital disinfectants may be classed as either low-level or intermediate-level in their spectrum of activity as indicated by label claims. These classes of germicides are regulated by EPA and are appropriate for environmental or medical device surfaces but not as a final step in reprocessing of medical instruments.

indifferent electrode
The stainless steel bar held by the client during electrology treatments to complete current circuit with galvanic/electrolysis

modality or with the use of a timer delay switch in automatic delivery epilators. Indifferent electrodes are non-critical items.

instruments
Tools or devices designed to perform a specific function, such as grasping, holding, or retracting.

intact skin
Skin, in which the natural protective barrier has not been altered by infection or trauma.

latex allergy
A systemic or local allergic response to various latex proteins to which the individual has been sensitized.

mechanical/visible indicators
Monitoring devices built into a sterilizer, such as indicating thermometers, recording thermometers, pressure gauges and automatic controls, which are used to assist in identifying and preventing malfunctions and operational errors and for record-keeping purposes.

needle
The wire filament which is inserted into the hair follicle for application of current in electrology. Needles used in electrology are not intended to be critical items, but may come in contact with blood, serum or other material and should be sterile when used.

non-critical items
Instruments or environmental surfaces that will come in contact only with intact skin. If properly cleaned and maintained, these surfaces carry relatively little risk of transmitting infection directly or indirectly to clients.

non-intact skin
Skin in which there is a break in the skin's natural integrity, (e.g., exposed skin that is chapped, abraded, or afflicted with dermatitis).

packaging
A generic term meant to include all types of containment, such as woven or non-woven wraps, paper or film pouches or rigid container systems.

pathogen
A microorganism or substance capable of producing a disease.

parenteral
Means of piercing mucous membranes or skin barrier through such events as needlesticks, human bites, cuts, and abrasions.

phoresis rollers
Stainless steel rollers used to apply current to skin before or after electrology treatment. Phoresis rollers are not intended to be semi-critical instruments, but may come in contact with non-intact skin, so they should be sterilized or exposed to high-level disinfection.

plain soap
A detergent-based cleanser without antimicrobial additives used for the primary purpose of physical removal of dirt and transient microorganisms. Soap is used in handwashing to suspend microorganisms and allows them to be rinsed off.

protective disposable barriers
A disposable, moisture-resistant covering, which reduces the potential for contaminating environmental or medical device surfaces that may be difficult or inconvenient to clean and disinfect routinely, e.g., tables and pillows, or hard-to-clean surfaces such as light handles and epilator surfaces.

reprocessing
The process of cleaning, disinfecting or sterilizing a reusable instrument that has been used or contaminated in order that it be made safe for its intended use.

semi-critical items
Instruments that may come in contact with mucous membranes and non-intact skin, but do not ordinarily penetrate body surfaces. Semi-critical items require sterilization or exposure to high-level disinfection.

sharps container
A specially manufactured and labeled, leak-proof, rigid, puncture-resistant, durable plastic container into which needles are placed after use and designed to be disposed of as an item of regulated medical waste.

sterility assurance file
The record containing the sterilizer maintenance and use log and culture report from each biological monitor.

sterilization
The process which destroys all forms of microbial life. The recommended methods of sterilization of instruments and items used in the practice of electrology are the dry heat sterilizer or the autoclave. These methods are standardized and can be routinely monitored for effectiveness.

tips for epilator needle
The cap or plastic tip that surrounds the base of the needle and covers the pin device where the needle shank is seated. Tips for epilator needle holder are considered non-critical items, but on occasion may come in contact with blood, so they should be cleaned and treated with an intermediate-level disinfectant before use.

treatment room
The operatory where electrology treatments are performed.

ultrasonic cleaner
The processing unit using ultrasonic waves transmitted through the cleaning solution in a mechanical process known as cavitation. The sound waves produce tiny air bubbles on instrument surfaces, which scrub tightly adhering or embedded particles from solid surfaces. Ultrasonic cleaning is particularly effective in removing soil deposits from hard-to-reach areas.

OVERVIEW OF STANDARDS

Electrology should be viewed as parenteral when developing standards for client safety. Electrology procedures do not routinely penetrate to sterile tissue although there are occasions where the needle may become contaminated with blood, serum or other material. For this reason, all needles used in electrology procedures should be single-use, pre-sterilized, and disposable. Other procedures, such as removing ingrown hair, result in blood contamination of instruments and can, therefore, contaminate related surfaces. For this reason all reusable instruments, including forceps, are sterilized using a standard method that can be routinely monitored for effectiveness (e.g., dry heat sterilizer or autoclave). The intended use of other items used during treatment will dictate whether or not sterilization is needed, or if disinfection is needed, which level of disinfection is appropriate. A thorough cleaning of instruments and other surfaces must precede either sterilization or disinfection procedures. Instruments that do not encounter blood or sterile tissue during use do not routinely require sterilization. During treatment of each client and during reprocessing of instruments gloves are worn. A proper hygienic environment should be maintained and infection control procedures followed to minimize the risk of transmission of infectious diseases between the practitioner and the client. An overview of standards based on these issues and principles are described as follows.

STANDARDS

Section 1: Hand Hygiene and Use of Gloves
Section 2: Cleaning and Sterilization of Instruments/Items and Other Safety Precautions
Section 3: Environmental Control and Housekeeping
Section 4: Client Considerations

Section 5: Hepatitis B Virus (HBV) Vaccination
Section 6: Follow-up Procedures for Potential Exposures to Hepatitis, HIV, and Other Blood-borne Pathogens
Section 7: Standard Precautions as Recommended by the Centers for Disease Control and Prevention

Section 1
Standards for Hand Hygiene and Use of Gloves

Hand Hygiene is considered one of the most important procedures for preventing the transmission of infection.

I. Hand Hygiene

A. Hands are cleansed by washing with plain liquid soap and water or degermed by hand antisepsis with alcohol-based hand rubs (if hands are not visibly soiled):
   (1) Before and after treatment of each client.
   (2) Before donning gloves and immediately after gloves are removed.

B. Hands are washed thoroughly with soap and water:
   (1) When visibly soiled; and
   (2) Immediately if bare-handed contact with blood, body fluids, secretions, excretions, non-intact skin, mucous membranes or contaminated equipment occurs.

C. Handwashing technique with plain soap and water includes:
   (1) Wetting hands with running water and applying liquid soap in the amount recommended by the manufacturer;
   (2) Vigorously rubbing hands together for 15 to 30 seconds, covering all surfaces of hands, especially between fingers and fingernail areas;
   (3) Rinsing hands thoroughly under a stream of water;
   (4) Drying hands thoroughly with a clean disposable paper towel;
   (5) Turning faucets off with the paper towel; and
   (6) Disposing of the paper towel in the appropriate covered receptacle located in the treatment room.

D. Hand antisepsis, achieved by using alcohol-based antiseptic hand rubs includes:
   (1) Applying the product label recommended amount of alcohol gel or rinse to the palm of one hand;
   (2) Vigorously rubbing hands together, covering all surfaces of hands, especially between fingers and fingernail areas;
   (3) Continue rubbing hands together for 15 to 25 seconds until the alcohol dries.

II. Use of gloves

A. Gloves are worn during hand-contaminating activities:
   (1) A fresh pair of non-sterile, medical grade, latex, nitrile or vinyl disposable examination gloves are worn during the treatment of each client or when contact with blood or other potentially infectious materials, mucous membranes, and non-intact skin could occur.
   (2) Exam or utility gloves are worn during the procedures of soaking, cleaning, rinsing, drying and packaging of forceps and other contaminated instruments.

B. Decontaminate hands in accordance with the above Hand Hygiene Standards before putting on gloves and immediately after gloves are removed.

C. When a treatment session is interrupted:
   (1) Use a protective disposable barrier; or
   (2) Remove and discard gloves; and
      a) Decontaminate hands before touching items or surfaces (i.e., telephone, computer, door knobs); then
      b) Decontaminate hands before re-gloving with a fresh pair of gloves before resuming treatment.

D. Torn or perforated gloves are removed immediately; hands are decontaminated then re-gloved with fresh gloves.

E. After each treatment gloves are removed and disposed of in the appropriate receptacle located in the treatment room and hands are immediately decontaminated.

Control Measures for Hand Hygiene

Hand transfer can be a significant mode of transmission of bacteria and viruses from person to person, from person to surface or vice-versa. Handwashing uses plain or non-antimicrobial soaps, which are detergent-based cleansers that have no bactericidal activity. Washing with plain soap will accomplish a physical removal of soil and microorganisms by mechanical action. Hand antisepsis uses antimicrobial soaps or alcohol-based hand rubs, which contain ingredients with in vitro and in vivo activity against microorganisms on the skin, resulting in a reduction of the number of microbial flora on hands.

The cleaning activity of plain (non-antimicrobial) soap can be attributed to its detergent properties, which result in the removal of dirt, soil, and various organic substances from the hands. Handwashing with plain soap can remove loosely adherent transient flora. Follow the manufacturer's recommendations regarding the volume of product to use. Wash hands with warm water, not hot water, because repeated exposure to hot water may increase the risk of dermatitis. Residual moisture on hands after handwashing has been found to play an important role in the transfer of bacteria and viruses, so a longer duration of hand drying will result in fewer bacteria transferring to other surfaces. Handwashing products can become contaminated and support the growth of microorganisms, so adding soap to a partially empty soap dispenser can lead to bacterial contamination of soap; therefore, liquid products are to be stored in closed containers and dispensed from either disposable containers or containers that are washed and dried thoroughly before refilling.

According to the CDC Guideline for Hand Hygiene in Health-Care Settings alcohol-based products are more effective for standard hand hygiene by health-care-workers (HCW) than soaps. The anti-microbial activity of alcohols can be attributed to their ability to denature proteins. Alcohol solutions containing 60% to 95% alcohol are most effective, and higher concentrations are less potent. The ideal volume of product to apply to the hands is not known and may vary for different formulations. However, if hands feel dry after rubbing hands together for 10-15 seconds, an insufficient volume of product likely was applied. Follow the manufacturer's recommendations regarding the volume of product to use. Alcohols are not appropriate for use when hands are visibly dirty or contaminated with body fluids or visible blood products. After 5 to 10 uses of alcohol-based products, handwashing with soap and water is needed to remove a build up of emollients. Since alcohols are flammable, it is important to rub hands together after application of alcohol-based products until all the alcohol has evaporated. Use containers which will minimize evaporation.

When selecting products for hand hygiene, solicit information from manufacturers regarding any known interactions between products used to clean hands, and the types of gloves used.

Control Measures for Use of Gloves

Electrology is considered a parenteral procedure, which can result in direct contact with blood and non-intact skin; therefore, the electrologist wears a fresh pair of medical grade disposable examination gloves during each client encounter.

The CDC has recommended that HCW's wear gloves to 1) reduce the risk of personnel acquiring infections from patients, 2) prevent health-care worker flora from being transmitted to patients, and 3) reduce transient contamination of the hands of personnel by flora that can be transmitted from one patient to another. The Occupational Safety and Health Administration (OSHA) mandates that gloves be worn during all patient-care activities that may involve exposure to blood or body fluids.

Gloves are worn in addition to and not as a substitute for hand hygiene practices. When gloves are worn, hand hygiene practices are also recommended because gloves do not provide complete protection against hand contamination. The consistent wearing of gloves will decrease the risk of potential exposure.

OSHA prohibits washing or decontaminating disposable (single-use) exam gloves for reuse. In addition, the use of petroleum-based hand lotions or creams may adversely affect the integrity of latex gloves.

The consistent wearing of gloves will decrease the risk of potential exposure. Wearing gloves will also protect the client from potential exposure to the microbial flora of the electrologist, including blood-borne organisms should there be cuts, scrapes, or micro-lesions on the electrologist's hands. Torn or perforated gloves should be removed immediately and hands washed after gloves are removed because pathogens can gain access to the electrologist's hands via small defects in gloves or by contamination of the hands during glove removal.

Determine electrologist and client allergies before wearing latex gloves. Several factors have been linked with latex sensitization, including the presence of allergic conditions (e.g., asthma, eczema, hay fever), allergy to cosmetic powders or foods, and frequency or duration of glove use/exposure. The FDA has approved several powdered and powder-free latex gloves with reduced protein contents, as well as synthetic gloves that can be made available for use by latex-sensitive electrologists.

Section 2
Standards for Cleaning and Sterilization of Instruments/Items and Other Safety Precautions

Coordinate necessary sterilized instruments and supplies needed for each treatment in a manner whereby adherence to aseptic technique is maintained with minimal modes and sources of contamination. Wear gloves when handling soiled instruments. Caution should be taken to avoid puncture injuries from instruments.

I. Needles

A. Needles are:
   (1) Single-use, pre-sterilized, and disposable.
   (2) Stored in a manner that will maintain sterile condition of contents, away from wetness or humidity extremes.
   (3) Not recapped, bent, or otherwise manipulated by hand prior to disposal to avoid accidental puncture injury.
   (4) Placed in a puncture resistant sharps container:
      a) Immediately after use.
      b) When opened and found damaged.
      c) When contaminated before use.
      d) When not used before pre-printed expiration date.

II. Forceps, phoresis rollers and tips

A. Forceps, phoresis rollers and tips are:
   (1) Processed before initial use and after use on the client to make safe for use during the next client encounter.
   (2) Reprocessed:
      a) After a 24-hour period when packaging is opened and instruments are unused.
      b) When contaminated before use, (e.g., dropped or placed on surface not protected by barrier).

III. Processing protocols for forceps, phoresis rollers and tips

A. Instruments and items are:
   (1) Accumulated in a covered holding container by submersion in a solution of a protein-dissolving enzyme detergent and water, following manufacturer's instructions for dilution, rinsed and drained.
   (2) Instruments and items are then placed in the basket of a covered ultrasonic cleaning unit containing a fresh solution, of a protein-dissolving enzyme detergent, following manufacturer's instructions for dilution and ultrasonic running times.
   (3) Basket is removed from ultrasonic unit, rinsed under running water, drained and items are dried in the following manner:
      a) Air dried on a clean, disposable, absorbent, non-shedding cloth in an area protected from exposure to contaminants;
      b) With a hot air dryer; or
      c) Placed into drying cabinet.
   (4) Forceps, rollers and heat-stable tips are packaged individually or in small multiples in woven or non-woven wraps, paper or film pouches or rigid container systems for the sterilization process.
   (5) Packaged instruments and items are placed in an autoclave or dry heat sterilizer with chemical indicator, loading and running the sterilizer according to manufacturer's instructions. If dry heat sterilizers are used, heat-sensitive tips are subjected to an intermediate-level disinfectant, rinsed and dried.
   (6) After processing, instruments and items are stored in a clean, dry, covered container, drawer or closed cabinet, which prevents the contents from coming into contact with dust, moisture, unnecessary touching and soil.

IV. Sterilization

A. Methods of sterilization:
   (1) Dry heat. The following time-temperature relationships are recommended:
      a) 340° F (170° C) for 1 hour.
      b) 320° F (160° C) for 2 hours.
   (2) Autoclave (steam under pressure). The following time-temperature-pressure relationship is recommended:
      a) 15-20 minutes at l2l° C (250° F) and 15 psi (pounds per square inch) for packaged instruments and items.

(3) Follow the sterilizer manufacturer's instructions for the unit you have if times and temperatures differ from those given.

B. Use of sterilizers:

(1) The temperature and exposure time for using dry heat sterilizers and autoclaves relates only to the time of exposure after attainment of the specific temperature and does not include a penetration or heat-up lag time. Exposure time does not include drying and cool-down time.

(2) Sterilizers should have visible physical indicators (e.g., thermometers, timers). Visually check sterilizer gauges during the cycle.

(3) Sterilizers should be loaded, operated and maintained according to manufacturer's instructions. The interior of these devices should be cleaned according to the manufacturer's instructions.

(4) Use sterilizers that are regulated by the FDA.

(5) Chemical (i.e., color change) indicators should be used on each package, and optionally, placed inside packages containing multiple instruments. Chemical indicators should be visible on the outside of each package sterilized and indicates that instruments/items have been exposed to a sterilization process, but it does not guarantee sterility.

(6) Biological monitors should be used no less than once a month (per sterilizer) according to manufacturer's instructions to ensure proper mechanical function of the sterilizer. Lab reports should be filed in a permanent Sterility Assurance file.

C. Packaging for sterilization:

(1) When choosing package material, consider size, shape and number of instruments to be sterilized.

(2) The package material should be able to withstand the physical conditions of the selected sterilization process.

(3) There should be enough space between items in packaging for sterilization of all surfaces to occur.

(4) Follow manufacturer's recommendations for spacing of packaged items in the sterilizer.

(5) After sterilization, the package material should:

a) Provide a barrier to microorganisms;

b) Repel all liquids;

c) Protect sterilized item during normal handling; and

d) Provide for aseptic removal of contents.

V. Other treatment related items

A. Indifferent electrodes, cords for epilator and eyeshields are:

(1) Cleaned, dried and subjected to intermediate-level disinfection before initial used and after each treatment.

(2) Replaced when showing signs of wear and tear.

B. Ultrasonic cleaning units and all other containers and their removable parts used during soaking and cleaning procedures are:

(1) Cleaned and dried daily.

(2) Used and maintained according to manufacturers instructions.

C. Environmental surfaces directly related to treatment are cleaned and subjected to low-level disinfection daily and whenever visibly contaminated.

Control Measures for Cleaning

Cleaning is the basic first step for all decontamination because it physically removes debris and reduces the number of microorganisms present. Cleaning is the removal of organic material or soil from objects and is normally done by using detergent and water. Generally, cleaning is designed to remove rather than kill microorganisms. Immediate decontamination of instruments after use is an important step in providing protection to the electrologist and to help prevent the transmission of pathogens.

Technology has provided cleaning products and devices that are especially appropriate for the cleaning of instruments used in electrology. Enzyme detergents and ultrasonic cleaning units are examples of appropriate devices used to clean electrology instruments and items. The use of an ultrasonic cleaning unit will reduce the electrologist's risk for exposure to puncture injuries that can occur during the scrubbing of instruments. A meticulous physical cleaning is always done before disinfection or sterilization.

Control Measures for Sterilization

Instruments that can penetrate soft tissue during electrology procedures are the needle and forceps. To assure the highest level of client safety, needles should be single use, pre-sterilized, and disposable. Forceps should be thoroughly cleaned and then sterilized before initial use and after use on the client to reduce the risk of transmission of infection and disease. While tips are considered non-critical items, they may come in contact with blood during a treatment. For this reason, they should be processed with forceps. All tips tolerate autoclave sterilization; if dry heat sterilization is used, electrologists are encouraged to use heat-stable tips.

Do Not Use:

The endodontic dry heat sterilizer known as the glass bead sterilizer should not be used in the practice of electrology since it is no longer cleared to market by the FDA. The FDA Dental Device Classification Panel has stated that the glass bead sterilizer presents "a potential unreasonable risk of illness or injury to the patient because the device may fail to sterilize dental instruments adequately."

Some high-level disinfectants, including glutaraldehyde-based germicides, are not recommended as an applicable method of sterilization of instruments and items, based on their toxicity level, instability, and impracticality. Sterilization with liquid chemical germicides is not capable of being biologically monitored. If an electrology device is heat-stable, the proper method of reprocessing is by using a heat-based method such as a steam autoclave or dry air oven.

Carbon rollers for phoresis are porous and cannot be sterilized or disinfected; therefore, they should not be used.

Household bleach is not labeled for disinfecting instruments.

Control Measures for Disinfecting

Chemical disinfectants are regulated either by the Food and Drug Administration (FDA) for medical instrument uses or the Environmental Protection Agency (EPA) for environmental surface uses. Intended uses and directions for use are found both on the labels of the products and/or in package inserts. Material Safety and Data Sheets (MSDS) for each product are available from the manufacturer.

Disinfectant products are divided into two major types: hospital and general use. Hospital type disinfectants are the most critical to infection control and are used on medical and dental instruments, floors, walls, bed linens, toilet seats, and other surfaces. General disinfectants are the major source of products used in households, swimming pools, and water purifiers.

Non-critical equipment and environmental surfaces are cleaned and then treated with either intermediate-level, or low-level disinfectants. Intermediate-level disinfection kills mycobacteria, most viruses, and bacteria with a chemical germicide registered as a "tuberculocide" by the EPA. Low-level disinfection kills some viruses and bacteria with a chemical germicide registered as a hospital disinfectant by the EPA.

Control Measures for Disposal of Needles

Do not overfill the sharps container. When the sharps container is ¾ full, seal it securely and follow state and local health regulations to dispose of it.

Section 3
Standards for Environmental Control and Housekeeping

A proper hygienic environment should be the goal of the electrologist and electrology instructor. A variety of microorganisms are normal contaminants of environmental surfaces; therefore, routine cleaning and removal of soil are recommended. Most microorganisms found on environmental surfaces are non-pathogens, but conscientious sanitation and disinfection techniques control cross-infection.

I. Environmental Control.

A. Each treatment room:
   (1) Is kept clean, well lighted, and well ventilated.
   (2) Contains a sink with hot and cold running water.
   (3) Contains disposable paper towels and an appropriate handwashing product adjacent to the sink.
   (4) Contains covered storage for supplies.
   (5) Contains a puncture resistant sharps container labeled as a biohazard.
   (6) Contains covered trash containers.
   (7) Has availability to toilet facilities with sink, liquid hand soap and disposable paper towels.

B. Treatment table surfaces are:
   (1) Made of materials that can be washed with detergents and treated with disinfectants.
   (2) Covered with fresh disposable paper drapes or barrier before each client treatment in the following manner:
      a) Headrests are covered with fresh disposable paper drapes or barrier before each client treatment.
      b) When body areas are treated and bare skin may come in contact with the treatment table surface, the surface must be covered with an appropriate sized fresh disposable paper drape or barrier.

C. Containers for dispensing products, such as liquid soap, alcohol hand-rubs, and treatment supplies are disposable or if reusable they are cleaned and dried before being filled with fresh product.

D. When using creams, lotions, ointments and antiseptics during treatment:
   (1) Follow aseptic techniques for dispensing products.
   (2) Follow manufacturer's recommendations for use.
   (3) Dispose of product and container when contaminated or expiration date is reached.

E. Environmental surfaces that are touched during treatment, such as epilator needle holder and cords, epilator cart, magnification lamps, lighting devices and epilator controls are:
   (1) Covered with a fresh protective disposable barrier before each treatment of a client; or
   (2) Decontaminated after each treatment of a client, following manufacturer's instructions for use of product.

F. Disposable items such as cotton, paper drapes and protective barriers are:
   (1) Stored in covered containers, closed cabinets or drawers before use; and
   (2) Discarded into a covered trash container lined with a plastic bag, securely fastened when ready for disposal, and disposed daily into the regular trash, unless otherwise specified by state and local health regulations.

G Reusable items such as sheets, pillowcases and towels, used to cover treatment table or as a client drape are:
   (1) Stored in covered containers, closed cabinets or drawers before use.
   (2) Placed in a covered container, labeled as "soiled laundry" after use, and
      a) Laundered with detergent and water temperatures that will ensure adequate cleaning and thermal disinfection, and
      b) Dried completely in a gas or electric clothes dryer, at high temperatures.

II. Housekeeping.

A. A low-level hospital-grade disinfectant registered with the Environmental Protection Agency (EPA) is used for cleaning non-critical environmental surfaces.

B. All other environmental surfaces in the treatment room are kept in a state of visible cleanliness by:
   (1) Cleaning with water and detergent, and
   (2) Using a hospital-grade disinfectant/detergent designed for general housekeeping purposes as indicated on the product label.

Control Measures for Environmental Control and Housekeeping

Hospital-grade disinfectants registered with the EPA should be used for environmental surface cleaning. Product labels give the EPA registration number and should give adequate safety and precautionary information. Manufacturer's instructions on the use of the product should be followed. Information on specific manufacturer label claims and the classification of disinfectants can be obtained by writing the Anti Microbial Division, EPA 751OC, Office of Pesticides Programs, 401 M Street SW, Washington, DC 20460. http://www.epa.gov/.

Environmental surfaces are "non-critical" and may be divided into at least two major subdivisions according to decreasing risk of disease transmission: (1) medical equipment surfaces such as frequently touched epilator surfaces, magnifying lamps, epilator carts, and (2) housekeeping surfaces such as floors, walls, door knobs, tabletops, and window sills.

Adequate levels of safety for surfaces of electrology equipment (non-critical surfaces) may be achieved by simple washing or

scrubbing with detergent and warm water or, depending on the equipment surface and the nature and degree of contamination, cleaning followed by an application of an intermediate- to low-level chemical germicide. Follow manufacturer's instructions for application and exposure times of disinfectant products.

Cleaning schedules and methods vary according to the type of surface to be cleaned and the amount and type of soil present. Countertops should be of smooth, non-porous material and should be cleaned daily, taking special care in the areas where the procedures of cleaning and sterilizing instruments and items takes place. Items on countertops should be maintained in a sanitary manner. Sinks and toilet facilities should be cleaned daily. Non-critical equipment, environmental surfaces, doorknobs, telephones, and treatment tables in the treatment room should be cleaned and disinfected on a regular basis. Floors and carpets should be vacuumed and cleaned regularly. Walls, blinds and curtains should be cleaned when visibly soiled.

Section 4
Standards for Client Considerations

I. Client Considerations.

A. Standard Precautions should be consistently used for all clients.

B. A complete past and current health history should be obtained from each client prior to treatment. The client's health status should be updated and evaluated on an on-going basis and referred to an appropriate physician as indicated.

C. The client's skin should be evaluated prior to each treatment and the client should be referred to an appropriate physician if indicated.

II. Pre and Post-Treatment of Skin Site.

A. Before treatment, the skin site should be cleansed using soap and water then wiped with an antiseptic skin preparation.

B. After treatment, the skin site should be wiped with an antiseptic product.

C. Clients should be instructed on appropriate post-treatment care to promote healing of the treated skin site.

Control Measures for Client Considerations

The client's skin should be examined for signs of infection or rashes prior to each treatment. Treatment should be delayed if actual or potential signs or symptoms of infection are present. The practitioner should refer the client to an appropriate physician when evaluation of health history or skin examination indicates.

The general health status of the client may be a predisposing factor in susceptibility to infection and normal healing. Professional interpretations require careful observation and good judgment. Cleansing the skin with soap and water prior to treatment serves to physically remove dirt and contaminating microorganisms. Wiping with an antiseptic will help to inhibit or destroy microorganisms. An FDA regulated antiseptic should be chosen that does not cause irritation to the skin surface.

Section 5
Hepatitis B Virus (HBV) Vaccination

The Centers for Disease Control and Prevention (CDC) reports that HBV infection is a major infectious occupational hazard for health care workers. The risk of acquiring HBV infection from occupational exposures is dependent on the frequency of percutaneous and permucosal exposures to blood or blood products.

I. Practitioners and electrology students should be immunized against hepatitis B virus (HBV).

Control Measures for HBV Vaccination

The CDC states that health care workers may be at risk for hepatitis B virus (HBV) exposure if their tasks involve contact with blood or blood-contaminated body fluids; therefore, such workers should be vaccinated.

Risks among health care professionals vary during the training and working career, but are often highest during the professional training period. For this reason, the student's vaccination for HBV should be completed before electrology training begins.

In 1986 the FDA approved a new recombinant hepatitis B vaccine. It consists of highly purified hepatitis B surface antigen (part of the virus) that is produced by cells of bakers' yeast. The vaccine is a result of a genetic recombinant technique and contains no human source materials; therefore, there is no risk of acquiring a disease from the vaccine.

Practitioners should contact their personal physician for appropriate immunization against hepatitis B.

Section 6
Follow-up Procedures for Potential Exposures to Hepatitis B and C, HIV, and Other Blood-borne Pathogens

Health care workers who have percutaneous or mucous membrane exposure to blood and other body fluids are at risk for infection, including HBV, HCV and HIV infection. The CDC concludes in a continuing study that, while HIV infection is a real risk to health care workers, the risk is low and can be minimized by taking appropriate precautions.

Identified risk factors for HIV and HCV transmission are almost identical to those for HBV transmission. Despite the similarities in modes of transmission, the risk of HBV infection in health care settings far exceeds that for HIV or HCV infection.

I. The following steps should be taken when a puncture injury has occurred:

A. Remove and discard gloves.

B. Wash exposed surface with running water and soap. If wound is bleeding, allow to bleed. After thoroughly cleaning the wound, apply an antiseptic product.

C. Immediate contact is made to practitioner's personal physician for appropriate consultation, and for necessary post-exposure strategies.

D. Documentation of the exposure is made including:

(1) Date and time of exposure;

(2) Details of the procedure being performed, including where and how the exposure occurred;

(3) Details of the exposure, including the type and amount of fluid or material and the severity of the exposure (e.g., for a percutaneous exposure and depth of injury; for a skin or mucous membrane exposure, the estimated volume of material and the condition of the skin);

(4) Details of the exposure source (e.g., whether the source material contained HBV, HCV, or HIV);

(5) Details about the exposed person (e.g., hepatitis B vaccination and vaccine-response status); and
(6) Details about counseling, post-exposure management and follow-up, date, route of exposure, circumstance under which exposure occurred, name of source client, HIV and/or hepatitis status of source client, status of practitioner's testing, follow-up testing and any necessary post-exposure prophylaxis.

Control Measures for Follow Up Procedures

Careful clinical skills should be practiced and Standard Precautions followed to prevent puncture injury or mucous membrane exposure to blood. Proper management of exposures is necessary including first-aid measures, medical follow-up including collection and testing of blood of source person and exposed person, necessary prophylaxis and written documentation. In the event of exposure to blood and body fluids containing visible blood, the steps recommended in Section 6 should be followed.

Section 7
Standard Precautions as Recommended by the Centers for Disease Control and Prevention (CDC)

I. Standard Precautions appropriate to the practice of electrology are included in the Standards, Sections 1-7.

Control Measures for Standard Precautions

These precautions as included in the Standards should be performed universally for all clients.

Standard Precautions are intended to prevent parenteral, mucous membrane, and non-intact skin exposures of health-care workers to blood-borne pathogens. In addition, immunization with HBV vaccine is recommended as an important adjunct to Standard Precautions for health-care workers who have accidental exposures to blood.

The following Standard Precautions are appropriate for the care of all clients during electrology treatments:

- Wash hands or use hand antisepsis BEFORE and AFTER each client contact.
- Wear gloves when touching blood, body fluids, secretions, excretions, contaminated items, mucous membranes and non-intact skin.
- Take care to prevent puncture injuries when using instruments during and after procedures; when cleaning instruments; and when disposing of used needles.
- Use adequate procedures for routine care, cleaning, and disinfection of environmental surfaces, and other frequently touched surfaces.

Electrology does not generate splashes or sprays of blood and body fluids. For this reason, the following Standard Precautions are NOT necessary in electrology:

- Wearing mask and eye protection or a face shield to protect mucous membranes of the eyes, nose and mouth during procedures and client care activities that are likely to generate splashes or sprays of blood and body fluids.
- Wearing gown to protect skin and prevent soiling of clothing during procedures that are likely to generate splashes or sprays of blood and body fluids. Remove soiled gown as promptly as possible and wash hands.

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