Infection Control Standards for the Practice of Electrology

Compiled by: The American Electrology Association

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*Review and comment does not constitute endorsement by private organizations or US governmental agencies.

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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*** patient/clients as potentially infectious 2) to adhere to infection control precautions for minimizing the risk of exposure to blood or body fluids of all patient/clients, and 3) to reduce the risk of transmission of infection and disease from patient/client to patient/client, practitioner to patient/client, and patient/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 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 patient/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 patient/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 patient/client care.
7. Participate in continuing education.
8. Foster ongoing quality improvement of patient/client care.

DEFINITION OF TERMS

For the purpose of these Standards, the following definitions should be used:

anaphoresis/cataphoresis rollers

Stainless steel rollers used to apply current to skin before or after electrology treatment. Anaphoresis/cataphoresis rollers are considered semi-critical items and require sterilization.

antiseptic

A chemical used on or in 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

From Greek, asepsis, meaning "without sepsis (putrefaction/infection)." Aseptic technique is the combined range of motions and procedures conducted by practitioners to limit the transfer of microorganisms among inanimate surfaces, the patient/client and the practitioner. For example, 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, and so forth.

assessment

The process of collecting, verifying, organizing, interpreting, and documenting data about the patient/client's health status and skin condition.

autoclave (steam sterilizer)

A vessel used for sterilization by application of saturated steam under pressure and heat. Autoclaves are regulated by FDA.

biological indicator

A commercially prepared device with a known population of highly resistant bacterial spores 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 FDA.

chemical disinfectant/germicide

A chemical agent that is applied to inanimate objects to kill microbes. Chemical disinfectants are classified as "high-level," "intermediate-level," and "low-level" according to their comparative levels of potency and their intended uses. Chemical disinfectants are regulated either by FDA (medical instrument uses) or the Environmental Protection Agency EPA (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.

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 indicators are capable of "integrating" time at a particular temperature before color change. Chemical indicators are regulated by FDA.

cleaning

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

critical items

Instruments or objects that will come in direct contact with the bloodstream or other normally sterile areas of the body. Needles and forceps are examples of critical items used in electrology.

decontamination

A process that renders a medical device, instrument, or environmental surface reasonably safe to handle; in the case of medical instruments or devices, a decontamination process or treatment does not necessarily mean that the item is safe for patient reuse. A decontamination procedure can range from cleaning with soap and water to disinfection or sterilization.

disinfection

A process that reduces the level of microbial contamination. A disinfectant is a chemical or physical agent that is applied to inanimate objects to kill microbes. A thorough cleaning of the item in question is essential prior to any disinfection/sterilization process.

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

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

environmental surfaces

Surfaces in the electrology work setting. This surface area may potentially contribute secondary cross-contamination by hands of the electrologist or by contact with instruments that will subsequently come into contact with patient/clients and should therefore be properly maintained to minimize their potential role in disease transmission. Environmental surfaces are "non-critical" (see definition below) 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, tabletops, window sills, and so forth.

epilator cord

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 and require cleaning.

forceps

The instrument used in electrology treatment to lift the hair from the follicle. Forceps are critical items and require sterilization.

gloves

Medical grade hand protection made of latex or vinyl and worn by a practitioner during electrology treatment and cleaning procedures. Medical grade gloves are regulated by FDA.

handwashing

The process for the removal of soil and transient microorganisms from the hands by a vigorous brief rubbing together of all surfaces of lathered hands for 10 to 15 seconds, followed by rinsing under a stream of water.

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-, orthophthaldehyde-, 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." Items must be properly cleaned before disinfection is performed with these solutions.

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

A stainless steel bar which is held by the patient/client during electrology treatment to complete current circuit with galvanic/electrolysis modality or

with the use of a timer delay switch in automatic delivery epilators. The indifferent electrode is a non-critical item.

instruments

Tools or devices designed to perform a specific function, such as grasping, holding, or retracting. Forceps are an example of instruments in electrology.

intact skin

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

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. As with all other disinfection procedures, thorough cleaning is essential to the effectiveness of the process. Intermediate-level germicides are regulated by EPA.

invasive procedure

The surgical entry into tissues, cavities, or organs during a medical treatment. In electrology, the entry of the needle into the hair follicle which can make contact with blood or other normally sterile areas of the body. However, the depth of penetration of electrology instrumentation is limited mostly to the skin tissue layer and never below the subcutaneous tissue layer, i.e., electrology is “superficially invasive” as compared to hospital surgical procedures which typically penetrate to deep soft tissue (facia and muscle) and organ spaces. Similar to subcutaneous injection of medication, the electrology instruments are sterile at time of use.

latex allergy

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

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.

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 are critical items and are single-use, pre-sterilized and disposable.

non-critical items

Instruments or environmental (equipment and housekeeping) surfaces that will come in contact only with intact skin. Indifferent electrode and epilator cords are examples of non-critical instruments used in electrology. If properly cleaned and maintained, these surfaces carry relatively little risk of transmitting infection directly or indirectly to patient/clients.

non-intact skin

Skin in which there is a break in the skin's natural integrity, (e.g., post epilation of hair, needle stick, etc.).

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.

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. Tips for epilator needle and anaphoresis/cataphoresis rollers are an example of semi-critical items used in electrology.

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 which contains the sterilizer maintenance and use log and culture reports from each biological monitor.

sterilization

A 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 semi-critical items.

ultrasonic cleaner

A processing unit that transmits ultrasonic waves through the cleaning solution in a mechanical process known as cavitation. The sound waves produce tiny air bubbles on instrument surfaces. Ultrasonic cleaning is particularly effective in removing soil deposits from hard-to-reach areas.

OVERVIEW OF STANDARDS

Electrology should be viewed as a superficially invasive procedure when developing standards for patient/client safety. Needles used in electrology treatments penetrate the skin and can become contaminated with blood, serum, or other material. Electrology procedures do not routinely penetrate to sterile tissue although there are occasions where the needles and other devices make contact with blood. Therefore, all needles used in electrology procedures should be single-use, pre-sterilized, and disposable. Other procedures, such as removing ingrown hair, results in blood contamination of instruments and can result in contamination of related surfaces. All reusable critical instruments shared between the patient/clients are sterilized using a standard method that can be routinely monitored for effectiveness (e.g., dry heat sterilizer or autoclave). The intended use of the instrument or equipment will dictate whether or not sterilization is needed, or if disinfection is needed, which level of disinfection is appropriate. 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. A fresh pair of non-sterile, medical grade, disposable examination gloves should be worn by the electrologist during the treatment procedure of each patient/client. 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 patient/client. An overview of standards based on these issues and principles are described as follows.

STANDARDS

Section 1: Handwashing and Use of Gloves

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

Section 3: Environmental Control and Housekeeping

Section 4: Patient/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 Handwashing and Use of Gloves

Handwashing is one of the most important procedures for preventing the transmission of infections.

I. Handwashing.

A. A sink with hot and cold running water is located in each treatment room.

B. Hands are washed:
   (1) Before and after treatment of each patient/client.
   (2) Before donning gloves and immediately after gloves are removed.
   (3) Immediately if accidental bare-handed contact with blood, body fluids, secretions, excretions, non-intact skin, mucous membranes or contaminated equipment occurs.

C. Handwashing includes use of plain soap:
   (1) Reusable liquid containers are cleaned and dried before being refilled with fresh soap.

D. Handwashing technique includes:
   (1) Use of plain soap and water;
   (2) A vigorous rubbing together of all surfaces of lathered hands, especially between fingers and fingernail areas, for 10 to 15 seconds;
   (3) A thorough rinsing under a stream of water;
   (4) Hands are dried thoroughly with a clean disposable paper towel;
   (5) Faucets are turned off with the paper towel;
   (6) Paper towel is disposed of in the appropriate receptacle located in the treatment room.

II. Use of gloves.

A. A fresh pair of non-sterile, medical grade, disposable examination gloves are worn during the treatment of each patient/client. Gloves are disposed of in the appropriate receptacle located in the treatment room.

B. Hands are washed in accordance with the above Handwashing Standards before putting on gloves and immediately after gloves are removed.

C. Powder-free, reduced protein latex gloves or vinyl gloves are worn.

D. When a treatment session is interrupted, gloves are removed and discarded, and hands are washed before touching items or surfaces (i.e., telephone, computer, door knobs). Hands are washed and re-gloving with a fresh pair of gloves is done before resuming treatment.

E. Gloves are worn during the procedures of soaking, cleaning, rinsing, and drying of forceps and other instruments.

F. Torn or perforated gloves are removed immediately; hands are washed after gloves are removed and then re-gloved with fresh gloves.

Control Measures for Handwashing

Handwashing accomplishes a physical removal of microorganisms and a chemical inactivation of residual microorganisms on the surface of the skin. Fingers are thought to be the most important part of the hand in terms of the transfer and spread of pathogenic microflora. The 1985 CDC Guidelines for Hand Washing and Hospital Environmental Control recommends that, for routine handwashing, plain soap can be used for handwashing unless otherwise indicated. The 1995 APIC Guideline for Hand Washing and Hand Antisepsis in Health-Care Settings recommends a vigorous rubbing of all surfaces of lathered hands and fingers for 10 to 15 seconds, followed by thorough rinsing under a stream of water.

Handwashing products can become contaminated or support the growth of microorganisms. Liquid products should be stored in closed containers and dispensed from either disposable containers or containers that are washed and dried thoroughly before refilling.

Control Measures for Use of Gloves

Each patient/client must be treated with fresh unused gloves. Non-sterile gloves are appropriate for electrology procedures and should be worn when hands are likely to become contaminated with potentially infective material such as blood; all body fluids, secretions, and excretions, regardless of whether or not they contain visible blood; non-intact skin; and, mucous membranes.

The consistent wearing of gloves will decrease the risk of potential exposure. Wearing gloves will also protect the patient/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. When gloves are worn, handwashing is also recommended because gloves may become perforated during use and because bacteria can multiply rapidly on gloved hands. Torn or perforated gloves should be removed immediately and hands washed after gloves are removed.

If you choose latex gloves, use powder-free gloves with reduced protein content. Such gloves reduce exposure to latex protein and thus reduce the risk of latex allergy. When wearing latex gloves, do not use oil-based hand creams or lotions (which can cause glove deterioration) unless they have been shown to reduce latex-related problems and maintain glove barrier protection.

Determine patient/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.

Washing gloves during the treatment of the same patient/client is not recommended. Washing with surfactants may cause "wicking"; i.e., the enhanced penetration of liquids through microscopic holes in the gloves that would not otherwise leak. Disinfecting agents or oils may cause deterioration of glove material. Wearing gloves will not guarantee absolute protection as gloves may have microtears.

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. Caution should be taken to avoid puncture injuries from instruments.

I. Cleaning and Sterilizing Instruments/Items and Other Safety Precautions.

A. Needles are critical items and 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 sharps container:
      a) Immediately after use,
      b) When opened and found damaged, and
      c) When not used before pre-printed expiration date.

   The sharps container is securely sealed and disposed of as specified by state and local health regulations.

B. Forceps and other instruments that are critical items are cleaned and then sterilized before initial use and after use on the patient/client to make safe for use during the next patient/client encounter. Unused instruments in packaging or containers that have been opened are reprocessed after a 24-hour period. Instruments contaminated before use, (e.g., dropping or touching an unsterile surface) are reprocessed before use. For processing:
   (1) Forceps and other instruments are 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.

(2) The holding container is held under warm running water to rinse off detergent and debris and drained.
(3) Forceps and other instruments are placed in the basket of an ultrasonic cleaning unit containing a fresh solution of protein-dissolving enzyme detergent, following manufacturer's instructions for dilution and immersion time.
(4) Basket is removed from ultrasonic unit, rinsed under running water and drained. Forceps and other instruments are dried with disposable paper towels.
(5) Forceps and other instruments are packaged individually or in small multiples for the sterilization process.
(6) Place packaged instruments in an autoclave or dry heat sterilizer with chemical indicator. Sterilize according to manufacturer's instructions.
(7) After processing, packaged instruments are stored in a clean, dry, covered container which prevents the contents from coming into contact with dust, moisture, unnecessary touching and soil.

C. Transfer forceps and their holding containers are cleaned and dried daily and whenever visibly contaminated.

D. Tips for epilator needle holders are semi-critical items and are processed before initial use and after use on the patient/client to make safe for use during the next patient/client encounter. Tips for epilator needle holders contaminated before use, (e.g., dropping or touching an unsterile surface) are reprocessed before use. For processing:
(1) Accumulate tips in a covered holding container by submersion in a solution of a protein-dissolving enzyme detergent and water.
(2) The holding container is held under warm running water to rinse off detergent and debris and drained.
(3) Place tips in the basket of an ultrasonic cleaning unit containing a fresh solution of protein-dissolving enzyme detergent, following manufacturer's instructions for dilution and immersion time.
(4) Basket is removed from ultrasonic cleaning unit, rinsed under running water and drained. Tips are dried with disposable paper towels.
(5) Package tips individually or in small multiples for sterilization; or submerse in a freshly made solution of 1 part household bleach to 99 parts water for 10 minutes and rinse under running water if damaged by heat. Dry bleach treated tips with disposable paper towels.
(6) After processing, tips are stored in a clean, dry, covered container which prevents the contents from coming into contact with dust, moisture, unnecessary touching and soil.

E. Anaphoresis/cataphoresis rollers are semi-critical items and are stainless steel. Between each treatment, anaphoresis/cataphoresis rollers are cleaned, dried and sterilized in the same manner as forceps.

F. Indifferent electrodes are non-critical items and are cleaned, dried and subjected to low-level disinfection after each treatment.

G. All containers and their removable parts, used during the cleaning procedure, are cleaned and dried daily and whenever visibly

contaminated. The interior chamber of the ultrasonic cleaning unit is emptied, washed and dried daily. Follow manufacturers instructions for cleaning and maintenance of equipment.

H. Cleaned, dried instruments and items are sterilized by either of the following methods:
   (1) Dry heat. The following time-temperature relationships are recommended, or other time-temperature relationships recommended by the manufacturer of the unit:
      a) 340°-F (170°-C) -1 hour.
      b) 320 °-F (160°-C) -2 hours.
   (2) Autoclave (steam under pressure). The following time-temperature-pressure relationship is recommended, or other time-temperature-pressure relationships recommended by the manufacturer of the unit:
      a) 15-20 minutes at l2l°C (250°F); 15 psi (pounds per square inch) for packaged instruments and items.

   The above temperature and exposure times for dry heat sterilizers and autoclaves relate 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. Follow the manufacturer's instructions for the unit you have if times and temperatures differ from those given above.

I. Autoclaves and dry heat sterilizers are loaded, operated and maintained according to manufacturer's instructions. The interior of these devices is cleaned according to the manufacturer's instructions. Sterilizers must have visible physical indicators (e.g., thermometers, timers). Chemical (i.e., color change) indicators are used on each package, and optionally, placed inside packages containing multiple instruments. Chemical indicators should be visible on the outside of each package sterilized. This only indicates items have been exposed to a sterilization process, it does not guarantee sterility. Biological indicators are used no less than once a month (per sterilizer) according to manufacturer's instructions to ensure proper mechanical function. Lab reports are filed in a permanent Sterility Assurance file.

Control Measures for Sterilization

To assure the highest level of patient/client safety, needles must be single use, pre-sterilized, and disposable. All instruments that will penetrate tissue should be either pre-sterilized disposable or thoroughly cleaned and then sterilized before reuse to reduce the risk of transmission of infection and disease.

The endodontic dry heat sterilizer (glass bead sterilizer) is no longer cleared to market by the Food and Drug Administration (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." The endodontic dry heat sterilizer (glass bead sterilizer) should not be used in the practice of electrology.

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 a medical 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 are porous and cannot be sterilized or disinfected, therefore, they should not be used.

Control Measures for Cleaning

Cleaning is the basic first step for all decontamination. Cleaning physically removes debris and reduces the number of microorganisms present. Cleaning is the removal of organic material or soil from objects and is usually done by using detergent and water. Generally, cleaning is designed to remove rather than kill microorganisms. Technology has provided cleaning products and devices that are especially appropriate for the cleaning of instruments used in electrology. A meticulous physical cleaning is always done before sterilization or disinfection. For sterilization or disinfection, refer to the manufacturers' instructions for exposure times and conditions as well as recommendations for rinsing and subsequent handling of processed items.

Control Measures for Disinfecting

Low-level and intermediate-level disinfectants used in the practice of electrology should be registered with the Environmental Protection Agency (EPA), whereas high-level disinfectants/liquid chemical sterilants are cleared by the Food and Drug Administration (FDA) for use in sterilizing or disinfecting medical and dental instruments. Disinfectants are to be used according to the manufacturer's instructions.

Chlorine solutions in concentrations of 0.05 to 0.5% free chlorine are generally considered to be intermediate-level disinfectants for specific site disinfection. Solutions of 0.5% (household bleach contains approximately 5% sodium hypochlorite) have broad-spectrum germicidal activity, and exhibit sporicidal activity, are tuberculocidal, inactivate vegetative bacteria, and are fungicidal and virucidal. Klein and Deforest (1965) reported that all of 25 viruses were inactivated in 10 minutes by as little as 0.02% available chlorine. Bleach solutions used to process tips for epilator needle holder are freshly made by mixing one tablespoon household bleach to one quart tap water. Discard bleach solution after each use.

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. Offices and treatment rooms are clean, well lighted, and well ventilated.
B. A sink with hot and cold running water is located in each treatment room.
C. Toilet facilities are available.
D. Fresh disposable paper drapes are used on the treatment table or chair for each patient/client. Paper drapes are stored in a closed cabinet.
E. Soiled disposable items are discarded into a 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.
F. Reusable containers used for dispensing antiseptics and other solutions and products are not refilled before being cleaned and dried. Creams, lotions, and ointments that are dispensed from original containers, are to be used in a sanitary manner, then disposed of when empty.
G. Epilator needle holder and any cords in direct contact with the patient/client and/or practitioner are cleaned with detergent and water, and treated with a low-level disinfectant after each treatment. Follow manufacturer's instructions for use of chemical disinfectants.
H. Any surfaces that are touched during treatment, such as magnification lamps, lighting devices and epilator controls are covered with a protective disposable barrier or disinfected after each treatment according to manufacturer's instructions. The protective disposable barrier is removed, discarded and replaced between each patient/client.
I. After each use, patient/client eyeshields are cleaned with detergent and water, then rinsed and dried.

II. Housekeeping.

A. A hospital-grade disinfectant registered with the Environmental Protection Agency (EPA) is used for cleaning environmental surfaces.
B. All other environmental surfaces in the treatment room are kept in a state of visible cleanliness by using a hospital-grade disinfectant/detergent designed for general housekeeping purposes as indicated on the product label after initial cleaning with water and detergent.

Control Measures for Environmental Control and Housekeeping

Hospital-grade disinfectants registered with the Environmental Protection Agency (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/.

Adequate levels of safety for surfaces of medical 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. Environmental surfaces in the treatment room should be cleaned on a regular basis. Equipment surfaces, doorknobs, telephones, and treatment tables should be cleaned 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
Patient/Client Considerations

I. Patient/client Considerations.

A. Standard Precautions are consistently used for all patient/clients.
B. A complete past and current health history assessment is obtained from each patient/client prior to treatment. The patient/client's health status should be updated and evaluated on an on-going basis and referred to an appropriate physician as indicated.
C. The patient/client's skin is evaluated prior to each treatment and referred to an appropriate physician if indicated.

II. Pre and Post-Treatment of Skin Site.

A. Before treatment, the skin site is cleansed using soap and water then wiped with an

antiseptic skin preparation.

B. After treatment, the skin site is wiped with an antiseptic product.
C. Patient/clients are instructed on appropriate post-treatment care to promote healing of the treated skin site.

Control Measures for Patient/Client Considerations

An assessment of the skin site and examination for signs of infection or rashes should take place prior to each treatment. Treatment should be delayed if actual or potential signs or symptoms of infection are present. The practitioner should refer the patient/client to an appropriate physician when evaluation of health history or skin assessment indicates.

The general health status of the patient/client may be a predisposing factor in susceptibility to infection and normal healing. Professional interpretations require careful observation and good judgment.

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 Centers for Disease Control and Prevention (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, when possible, vaccination should be completed during training in schools before workers have their first contact with blood.

In 1986 the Food and Drug Administration (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 Centers for Disease Control and Prevention (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 are 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: date, route of exposure, circumstance under which exposure occurred, name of source patient/client, HIV and/or hepatitis status of source patient/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 patient/clients.

Standard Precautions are designed to reduce the risk of transmission of blood-borne pathogens and reduce the risk of transmission of pathogens from moist body substances. Standard Precautions apply to all patient/clients receiving treatment, regardless of their diagnosis or presumed infection status. Standard Precautions apply to 1) blood; 2) all body fluids, secretions, and excretions, regardless of whether or not they contain visible blood; 3) non-intact skin; and, 4) mucous membranes.

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 patient/clients during electrology treatments:

- Wash hands BEFORE and AFTER each patient/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 is considered a superficially invasive procedure, which does not generate splashes or sprays of blood and body fluids. For this reason, the following Standard Precautions are not necessary in electrology:

- Wear mask and eye protection or a face shield to protect mucous membranes of the eyes, nose and mouth during procedures and

patient/client care activities that are likely to generate splashes or sprays of blood and body fluids.
Wear 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.

The Infection control Standards for the Practice of Electrology were revised and reviewed in 1991 and commented on by the following:

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