Health Standards and Guidelines for Electrolysis

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Alberta
HEALTH AND WELLNESS

June 2002

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I. Introduction

The potential for transmission of blood-born pathogens and other infections may occur during the removal of hair by electrolysis. It is very common for the electrologist to inadvertently penetrate the follicle wall or the follicle bottom, thereby making contact with blood vessels and other body fluids. Electrolysis can result in the transmission of infectious diseases as well as a variety of other more uncommon adverse reactions such as skin damage, bruising, irritation and hyperpigmentation. There have been sparse accounts of health complications as a result of electrolysis in the health literature. However, the procedure itself may provide an opportunity for microorganisms to be transferred between the client and the electrologist or between clients if proper infection prevention procedures are not followed. (1)

This standard outlines infection prevention techniques that are critical in reducing the risk of disease transmission during the electrolysis procedure.

What is Electrolysis?

Electrolysis is the only proven method, to date, of permanent hair removal.(1) The goal of electrolysis is to destroy the hair follicle to prevent further growth of unwanted hair through the use of specialized equipment generating an electrical current. It involves the introduction of a very fine specialized needle into the hair follicle and the transmission of a controlled pulse of electricity through the needle, resulting in the cauterization and destruction of the hair production area, referred to as the "target area". The loosened hair is then removed with forceps.

Electrolysis is achieved by three main methods:

1. Electrolysis (Galvanic Method) - a direct current (D.C), known as true electrolysis, is sent through the needle. Destruction occurs through a chemical action, when the D.C. current reacts with the fluid (sodium chloride and water) in the follicle and the surrounding tissue, producing lye that dissolves the target area.

2. Thermolysis (the “Flash Method”): an alternating current (A.C.), known as, diathermy, short-wave or high radio frequency current creates friction in the follicle surrounding the needle. Destruction occurs through heat (oscillating A.C. current) coagulating the target area.

3. The Blend: A combination of the first two methods. Simultaneously or sequentially destroying the target area by chemical action and coagulation.

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Equipment and Supplies

The following is an example of equipment and supplies needed:

- Epilator (electrolysis machine)
- Epilator cords
- Light source (e.g. lamp)
- Magnifying lamp/glasses
- Sponge holder and cord
- Needle holder and parts
- Needle holder tip (plastic)
- Sterilizer (dry heat or steam)
- packaging/heat indicator tape
- needles (filaments, wires, probes)
- forceps (tweezers)
- scissors

- instrument container(s)
- metal container with lid
- ultrasonic cleaning device
- sharps disposal container
- disposable gloves

- disinfectants
- detergents
- skin antiseptic

- eye shields
- face masks
- paper drapes, tissues, towels

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II. Operational Requirements

1. Preparation and Handling of Instruments and Equipment

a. Single use sterile disposable needles must be used and discarded after use.

b. Personal reusable needles are not permitted.

c. Reusable needle holder tips shall be soaked in a detergent solution, cleaned, rinsed and disinfected with an intermediate level disinfectant prior to reuse on clients.

d. Instruments must be either presterilized or thoroughly cleaned and sterilized between clients. It is more practical to have enough sterile sets to service all clients seen in one day.

e. New instruments shall be thoroughly cleaned and sterilized prior to use.

2. Skin Preparation

a. The skin site should be evaluated prior to each treatment and any skin condition that may lead to skin irritation should be discussed. If there are exudative lesions or "weeping" lesions in that area, the skin treatment should be postponed in that area.

b. Before treatment, the skin site shall be wiped clean with an acceptable skin antiseptic. (e.g. 70% alcohol, chlorhexadine gluconate 0.05% (1:2000), Hibidil) The skin antiseptic should be allowed to dry prior to treatment of the site.

c. Inside of the ears, nostrils or moles should not be treated without written consent from a physician.

3. Post-Treatment Skin Care

a. The skin site shall be wiped with an appropriate skin antiseptic, e.g. 70% alcohol or chlorhexadine gluconate 0.05% (1:2000) (Hibidil).

b. The electrologist shall provide the client with oral and written instructions regarding post treatment skin care.

c. Ointment/astringent may be used to soothe the skin and promote skin healing. Ensure not to contaminate the bulk container.

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d. In severe cases, ice in a clean disposable paper towel or in a clean disposable plastic bag may be applied to the treated skin site. This helps to reduce swelling.

4. Waste Disposal

a. All waste sharps, such as needles, shall be placed in a puncture resistant container with a tight fitting lid and disposed in accordance with the Regional Health Authority Requirements.

5. Personal Service Worker - Health and Safety

a. The electrologist shall wash his/her hands thoroughly with soap and water before and after the procedure.

b. The electrologist should wear single-use gloves during the procedure.

c. Any electrologist with open lesions or weeping dermatitis such as eczema on the hands or other areas that are not adequately covered should refrain from direct contact with clients until the condition clears. When gloves are worn, they must be changed between clients.

d. It is recommended that all electrologists be immunized against Hepatitis B.

e. The electrologist should avoid handling the needles as much as possible to reduce accidental needlestick injuries.

Response Procedures for Accidental Exposure to Blood and Body Fluid

Exposure to blood or body fluids presents the greatest risk of transmission of bloodborne pathogens such as hepatitis B (HBV), hepatitis C (HCV) or human immunodeficiency virus (HIV).

The following could result in exposure to blood-borne pathogens:

- Needlestick or cut from a used needle or sharp object contaminated with blood/body fluid.
- Splash of blood/body fluid onto broken skin (open cut, wound dermatitis).
- Splash of blood/body fluid onto mucous membrane (eyes, nose, mouth).

If an accidental exposure occurs, follow these procedures:

1. Wash the exposed surface with water, soap or a germicidal handwashing solution. If the area is bleeding, allow it to bleed freely. After cleaning the wound, apply a skin antiseptic and cover with a sterile dressing or band-aid. If there has been a splash onto the mucous membrane, flush the area thoroughly with water.

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2. The owner/operator shall immediately contact the Regional Health Authority/Medical Officer of Health in your area. In addition, the electrologist should contact his/her physician.
3. Determine if the electrologist has had a Hepatitis B vaccine and the date of completion.
4. Inform the client that he or she may be asked to submit blood samples for testing.
5. Keep a record of the incident including the following:
   - name, address and phone number of the client
   - name of electrologist
   - date of injury
   - circumstances surrounding the injury
   - action taken

6. Record Keeping

The operator should maintain a daily record of names and addresses of clients, name of electrologist, and store them for two years. A record will assist in tracing any potential infectious diseases.

III. Cleaning, Disinfection & Sterilization

7. Cleaning

Thorough cleaning must occur as a first step before the disinfection or sterilization process, or the disinfection/sterilization step will be ineffective.

a. Prior to sterilization and disinfection, all forceps and needle holder tips must be soaked and thoroughly cleaned to remove organic matter that may or may not be visible. An ultrasonic cleaning device is recommended, however, a fine soft brush (i.e. ultra soft toothbrush) moistened with a solution of detergent may be used to clean the instrument and then thoroughly rinsed with water. (Caution should be taken to avoid needlestick injuries)

b. All containers used to hold contaminated instruments shall be cleaned and disinfected daily with a low level disinfectant.

c. Any equipment touched with the gloved hand during treatment procedures shall be cleaned and disinfected between clients. (i.e. epilator button/knob controls, cord, microscope, treatment lamp, chair level, telephone)

d. The ultrasonic cleaning device should be emptied after use and cleaned daily with detergent and water. (The ultrasonic cleaner **will not** disinfect or sterilize instruments)

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8. Disinfection

(How the item is used determines the classification and type of disinfectant needed - refer to Appendix 1)

a. After each treatment, the needle tip holder shall be soaked thoroughly, cleaned, air dried and disinfected using an intermediate level disinfectant.
b. Reusable client eye shields, epilator button/knob controls, cord, microscope, treatment lamp, equipment surfaces touch by the electrologist must be cleaned and disinfected using a low level disinfectant.

Low level, Quaternary ammonium compounds. Some phenols and 3% hydrogen peroxide.	Kills some bacteria and viruses e.g. staphylococcus, herpes, HBV, HCV, and HIV. Does not kill *Mycobacterium tuberculosis*, fungi, or spores.	Low level disinfectants should be used to disinfect non-critical items, e.g. work surfaces, service tray, epilator control buttons, etc. The disinfectant should be prepared and used according to manufacturers' directions.
Intermediate level, 5.25% household bleach; 1 part bleach and 9 parts water; 70% isopropyl alcohol, and iodophors.	Kills the microorganisms for low level disinfectants plus fungi but does not kill *Mycobacterium tuberculosis*, or spores.	Intermediate level disinfectants may be used in place of a low-level disinfectant to disinfect work surfaces and equipment. e.g. the pin device that holds the sterile electrolysis needle.
High level, 2% gluteraldehyde or 6% hydrogen peroxide ✶ Most disinfectants at this level may also achieve sterilization if used for longer time periods.	Kills all viruses, bacteria (including *Mycobacterium tuberculosis*) but does not kill spores.	Used for semi-critical items and for critical items that cannot withstand heat sterilization.

9. Sterilization

a. All instruments and equipment requiring sterilization after thorough cleaning shall be sterilized according to the manufacturer instructions on the sterilization device.
b. After sterilization instruments and equipment must be stored in a protected environment to prevent contamination.
c. Sterilization devices should be tested at least once every month or every 10 cycles to monitor the effectiveness of sterilization.

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Sterilization equipment and supplies: • Steam autoclave or dry heat sterilizer.	The sterilizer is used to kill microorganisms on instruments.	Steam or dry heat should be used to sterilize critical items that may come into contact with the client's blood stream. Sterilized items should be kept in a clean area of the shop.
• Heat indicator tape.	Heat indicator tape or heat indicator bags should be used with each load that is placed in the sterilizer.	The heat indicator tape verifies that the package has been exposed to heat or steam.
• Spore test strips or vials	The spore test confirms that the sterilizer kills all micro-organisms.	The spore test should be performed at least once every month or every 10 cycles to monitor the effectiveness of sterilization.

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APPENDIX 1

Classification of Items for Disinfection[2]

Classification	Disinfectant	Method
Non-critical		
Items that may come into contact with intact skin and/or are used for routine housekeeping.	Low level disinfectants are good for non-critical items.	
Items that are rarely contaminated with blood/body fluid, e.g. client chair and table	Detergent is adequate	Clean to remove dust or soil from items/equipment and surfaces with a solution of detergent and warm water.
Items that are often contaminated with blood/body fluid, e.g. lamp handles, clip cord, dirty instrument tray, epilator button/knob controls and cord, pump packs, spray bottles, microscope, telephone, etc.	Low level disinfectants, e.g. quaternary ammonium compounds or "Quats", or a combination of a low level disinfectant-detergent; 3% hydrogen peroxide compounds	Clean and follow with low-level disinfection for reusable items and environmental surfaces that may be contaminated. Wet or spray a paper towel to wipe the clean item/surface with the disinfectant prepared and used according to the manufacturer's directions, i.e. allow sufficient surface contact time with the disinfectant.
Semi-Critical		
Items come into contact with mucous membrane or non-intact skin, or they hold a sterile item.	Intermediate and high level disinfectants are good for items that come into contact with mucous membranes or non-intact skin, or that hold a sterile item.	
Items that cannot be soaked and hold a sterile item that may have been splattered with blood/body fluids.	Intermediate level disinfectants, e.g. 70% isopropyl alcohol or 1 part 5.25% household bleach and 9 parts water. Bleach may be corrosive to metal.	Clean item is wet wiped with an intermediate level disinfectant level disinfectant and air dried after each client.
Items capable of being soaked and hold a sterile item that may have been splattered with blood/body fluids	High level disinfectants, e.g. 2% gluteraldehyde or 6% hydrogen peroxide.	Clean item is soaked for a number of minutes, as specified by the manufacturer, to achieve a high level of disinfection.
Critial		
Items which enter deep in the skin, e.g. tattoo or ear/body piercing needles, hypodermic needle used during electrolysis, jewlery.	Sterile items must be used to enter the skin.	
	Metal items to pierce the skin should be purchases sterile or packaged and sterilized by a steam or dry heat method.	Pre-sterilized, single use, packaged needles or earring studs should be used. Items that are not pre-packaged as sterile must be sterilized. Sterile electrolysis needles should never be saved and reused on the same client Chemicals that sterilize are not recommended for critical items as it is difficult to monitor and confirm that sterilization has been achieved and the packaging of items to maintain sterility is not possible.

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