
Health Standards and Guidelines for Tattooing

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I. Introduction

Tattooing involves piercing the skin with needles bearing various dyes to cause a permanent imprint and design. Tattooing can result in the transmission of infectious diseases as well as a variety of less common complications and adverse reactions. Historically, cases of syphilis, tuberculosis, tetanus and herpes have been associated with tattooing. Many of these infections resulted from mixing saliva with ink or tattooists holding needles in their mouths. ⁽¹⁾

In the twentieth century, outbreaks of hepatitis B associated with tattooing have been reported since 1950. Many case reports and outbreaks have been published⁽¹⁾⁽²⁾⁽³⁾⁽⁴⁾. In most reported cases, the tattooists used the same needle on several customers without adequate sterilization or the needle was contaminated during the procedure. ⁽¹⁾

A relationship between human immunodeficiency virus (HIV) and transmission by tattooing has not been established. However, evidence suggests that transmission is possible.

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

What is tattooing?

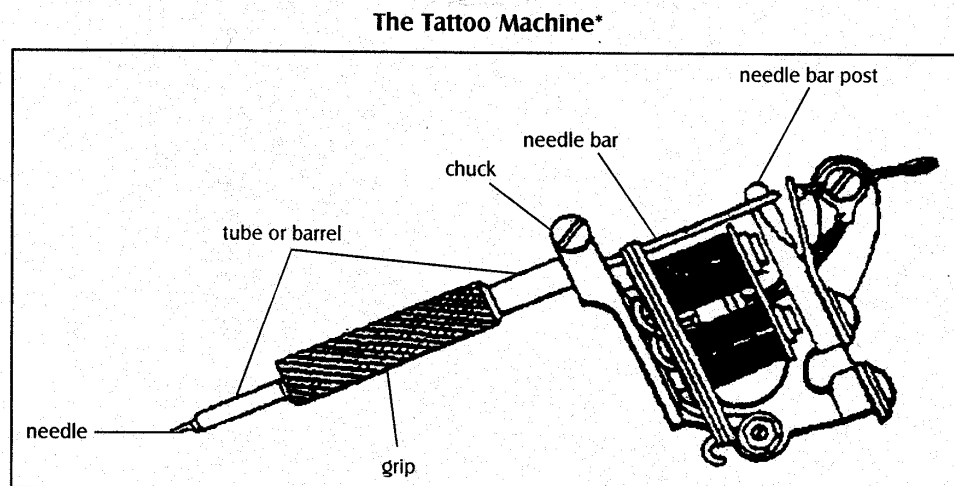
Tattooing is the process of puncturing the skin with a cluster of fine needles containing indelible dyes to achieve a permanent design or mark. Modern tattooists use the following steps:

- Needles are soldered onto a moveable shaft called the "needle bar" which is inserted into a stainless steel tube that serves as the "grip". These items are then sterilized.
- The needle bar, which may contain anywhere from 1-14 needles, is dipped in different pigments to outline a design and fill in the colour.
- The needle bar and tube assembly are mounted onto a direct current (DC) powered machine that vibrates the needle bar causing the needle to protrude out of the base of the tube.
- The needles penetrate the outermost layer of skin (the epidermis) and reach the next layer (the dermis).

Equipment and supplies

- sterilizer (autoclave)*
- packaging for sterilization
- indicator tape for sterilization
- ultrasonic cleaning device
- disinfectants
- skin antiseptic
- metal container for used instruments
- disposable gloves
- disposable razor
- disposable capsules/cups for pigment
- paper tissues/towels
- lubricating gel
- tongue depressors
- stir sticks
- sterile gauze or Telfa strips
- sharps disposal container
- spray bottles for disinfectant
- plastic sheath or bags

* a dry heat sterilizer may melt the solder



Adapted with permission: Spaulding, H. *Tattooing A to Z (A Guide to Successful Tattooing)* Spaulding & Rogers Mfg. Inc. 1998; 31.

III. Operational Requirements

1. Informed Consent

Prior to conducting the tattoo procedure, the tattooist should have the client sign a dated consent form acknowledging that he/she is:

- 18 years or older
- undertaking this procedure of his/her own free will
- not under the influence of drugs or alcohol
- aware that the tattoo is permanent

2. Preparation and Handling of Instruments and Equipment

Every precaution must be taken to prevent contamination of the equipment, and to follow proper infection control practices during the procedure.

- a. Needles should be soldered onto the needle bars with lead-free solder. Some operators neutralize the flux residue with a baking soda and water solution prior to cleaning and sterilizing.
- b. A new sterilized needle set shall be used for each new client. (Needle sets cannot be cleaned and sterilized effectively)
- c. The needle must not be tested on the tattooist's skin before or during use.
- d. All instruments should remain in the sterile packages until used.
- e. The tattoo needle and needle tube tip shall be maintained in a sterile condition prior to being used and shall not come into contact with any contaminated surface during use.
- f. The tattoo machine (motor frame), clip cord and spray bottles should be covered with a disposable plastic sheath. The plastic sheath should be disposed after each client.

3. 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. Skin should not be tattooed if there are signs of infection such as warts, pimples, crusts or open skin areas.

- b. Disposable razors should be used to shave the site, one for each client. Alternately, metal safety razors with disposable blades may be used but the blade is to be discarded after use on one client and the razor sterilized prior to re-use.
- c. The skin shall be swabbed with a skin antiseptic such as 70% alcohol to clean and disinfect the skin prior to tattooing.
- d. Stencils used to outline the design should be applied with lotion or other solutions, which moistens the skin prior to application of the stencil. Lotions should be applied in such a manner as to not contaminate the bulk product. Deodorant sticks are not recommended.
- e. If lubricating gel or petroleum jelly is used, individual portions must be obtained without contaminating the bulk supply. A clean disposable spatula such as a tongue depressor should be used to obtain an individual portion and to apply to the skin. Any unused portion shall be discarded.

4. Pigments (Dyes)

- a. Fresh pigments (dyes) in individual containers must be provided for use on each client. They shall be stored and handled in a manner that prevents contamination. Commercially manufactured dyes must be used and all dry powder pigments should be prepared as per the manufacturer's specifications and in a hygienic manner.
- b. Excess dye shall be removed from the skin with clean, single use, disposable absorbent material.

5. Post-Treatment Skin Care

- a. The tattooed area should be wiped with a skin antiseptic and covered with a sterile dressing.
- b. A single use applicator shall be used to apply any ointment.
- c. The tattooist should provide the client with oral and written instructions regarding post treatment skin care.

6. Waste disposal

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

7. Personal Service Worker – Health and Safety

- a. The tattooist shall wash his/her hands thoroughly with soap and water before and after tattooing.
- b. The tattooist should wear single-use gloves during the procedure.
- c. Any tattooist 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.
- d. It is recommended that all tattooists be immunized against Hepatitis B.
- e. The tattooist should avoid handling the needles as much as possible to reduce accidental needlestick injuries.
- f. The tattooist should use a lap pad to protect clothing during the procedure.

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 virus(HBV), hepatitis C virus(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.
2. The owner/operator shall immediately contact the Regional Health Authority/Medical Officer of Health in your area. In addition, the tattooist should contact his/her physician.
3. Determine if the tattooist 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 tattooist
 - date of injury
 - circumstances surrounding the injury
 - action taken

8. Record Keeping

The operator shall maintain a daily record of names and addresses of clients, name of tattooist and store them for two years. This will assist in the tracing of infectious diseases should they occur.

9. Removal of Tattoo

It is recommended that only a physician remove a tattoo.

III. Cleaning, Disinfection & Sterilization

10. Cleaning

Cleaning must occur as a first step before disinfection or sterilization or the process of disinfection or sterilization will be ineffective.

- a. At the end of each session needles must be removed from the needle bar and discarded into a puncture resistant container. Needle bars and tubes should be stored in a suitable container prior to cleaning.
- b. Disposable gloves should be worn when removing the needles from the needle bars. Caution should be taken to avoid needlestick injuries.
- c. Prior to sterilization or disinfection, **all items must be cleaned** with detergent and warm water to remove organic matter. An ultrasonic cleaner may be used to assist with cleaning.
- d. The ultrasonic cleaning device should be emptied and cleaned daily with detergent and water. (The ultrasonic cleaner **will not** disinfect or sterilize instruments)

11. Disinfection

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

- a. Single use stencils shall be discarded after one application. Plastic stencils shall be washed in soap and warm water and disinfected with a solution of 70% alcohol before and after use.
- b. All containers used to hold contaminated instruments should be cleaned and disinfected daily using a low-level disinfectant.
- c. The motor frame and clip cord that cannot be sterilized must be damp-wiped with an intermediate level disinfectant after each use.
- d. Work surfaces should be disinfected with 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 <i>Mycobacterium tuberculosis</i> , fungi, or spores.	Low level disinfectants should be used to disinfect non-critical items, e.g. work surfaces, service tray. 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 <i>Mycobacterium tuberculosis</i> , or spores.	Intermediate level disinfectants may be used in place of a low-level disinfectant to disinfect work surfaces and equipment.
High level 2% glutaraldehyde or 6% hydrogen peroxide ★ Most disinfectants at this level may also achieve sterilization if used for longer time periods.	Kills all viruses, bacteria (including <i>Mycobacterium tuberculosis</i>) but does not kill spores.	Used for semi-critical items and for critical items that cannot withstand heat sterilization.

12. Sterilization

- Instruments and equipment including new needles, needle bars, gripped tubes and forceps, etc., should be cleaned and sterilized for each client. Because the grip is grooved metal, a brush should be used during cleaning.
- Sterile packages should be stored in clean, designated storage cabinets. Instruments should remain in their sterile packages until used. (Check manufacturer specifications for storage times)

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 the 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 correct exposure to heat or steam has been reached for that load.
Spore test strips or vials	The spore test confirms that the sterilizer kills all microorganisms.	The spore test should be performed at least once every month to monitor the effectiveness of sterilization.

APPENDIX 1

Classification of Items for Disinfection⁽⁵⁾

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, tattoo motor frame, tattoo chuck or clamp, pump packs, spray bottle	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, e.g. needle pusher.	High level disinfectants, e.g. 2% glutaraldehyde 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.
Critical		
Items which enter deep in the skin, e.g. tattoo or ear/body piercing needles, hypodermic needle used during electrolysis, jewelry.	Sterile items must be used to enter the skin.	
	Metal items to pierce the skin should be purchased 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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