

Body Art: Safe or Sorry?



(Ron Jones, MS, ACSM Health/Fitness Instructor, Corporate Wellcoach)

Introduction: The increased popularity of body art has caused concern over health issues. There are conflicting reports about the infection risks with body art. You can decide for yourself after investigating this handout and my sources, but please note there are serious risks with *unprofessional body art* including Hepatitis and staph bacteria infections. It would be wise to seriously consider the following precautions before getting any form of body art...it's your body and you only have one—so be careful.

The purpose of this handout is to educate people about body art pros/cons along with safety and health issues. It is possible to get safe body art through professional artists. Getting body art is a serious decision. Anyone planning to get body art should educate themselves about the following health and personal concerns before taking unnecessary risks.

“If anything is sacred the human body is sacred.”

--Walt Whitman, I Sing the Body Electric

History: Body art tattooing and piercing have been practiced by many cultures for thousands of years. Body art has represented fertility, nobility, identification and punishment of prisoners, ornamental/cosmetic, courage, virility, spiritual ritual, and rites of passage. Today body art has become part of mainstream culture with young teens through seniors.

“Tattoo Tips”

Youth: Some studies indicate that about half of university students have a piercing and about a quarter have tattoos. One fifth reported a medical complication. Many high school students are now getting elaborate tattoos in visible body areas and routinely get piercings of the ear lobes, upper ear cartilage, tongue, and eye brows. *Body art is not bubble gum.* Adults should take body art more seriously and consider the health risks and potential dissatisfaction with permanent body art received at an early age before allowing children under 18 to permanently alter their bodies.

Permanent Tattoos: “Professional” tattoos are usually applied with a vibrating instrument that injects “approved” pigment (ink) 50 to 3,000 times per minute. Ink is injected into the second layer of skin called *dermis* at a depth of 1/64 to 1/16 of an inch. A “single” needle outlines the initial tattoo design. A “needle bar” with 5-7 needles fills in the remaining tattoo. “Amateur” tattoos are unsafe because they are unclean and improperly applied—some are applied by pencils, pens, straight pens, or needles. Unsafe pigments found in amateur tattoos come from India ink, carbon, soot, mascara, charcoal, and even dirt! People can also have allergic reactions to ink dyes or additives that complicate the healing process.

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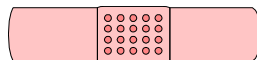


Temporary Tattoos: There are two basic types of temporary tattoos—"decal" and "*henna or mehndi*." Decal tattoos are applied to skin with moistened cotton and fade after several days. Most domestic decal tattoos use color additives approved for skin use; however, many import decal tattoos have been banned in the U.S. because they use colors not approved for the skin that can cause allergic reactions. *Henna* is a brown/orange/red type coloring made from a plant that is only approved for hair dyes—not skin. *Mehndi* is the body-decorating process that uses *henna* coloring. *Henna* colors that are not the natural brown/orange/red tint (*black henna, blue henna, or dark brown henna*) have been altered with toxic chemical additives. *Black henna* may contain coal tar color p-phenylenediamine (PPD) that is only approved as hair dye and may cause skin allergies. Severe reactions can even cause **PERMANENT** tattooing! *Henna* coloring may also contain chemical solvents that are harmful when absorbed by the skin.

Tattoo Checklist: The *Alliance of Professional Tattooists* (APT) has a great pamphlet under their "FAQ" section on "Basic Guidelines for Getting a Tattoo" at: www.safe-tattoos.com. In summary of *picking a design*, the APT recommends: choose what you like and can live with; seriously consider placement; choose a professional artist that fulfills your aesthetic tastes; don't shop for the "best deal"—pay a little extra for a true professional. For tattoo **safety**, use: "single service" sealed & **NEW needles** & set-ups; **NEW ink** & **NEW** disposable container; "universal precautions" like gloves, sterilization, etc.; clean & sterile conditions throughout shop including the use of EPA-registered disinfectant, germicide, or virucidal to clean stations between clients; artists that freely answer questions, show qualifications, certifications, & know sterilization/isolation procedures; autoclave sterilization machine with records for its use (spore tests); and use shops that exceed basic standards & guidelines. You should also insist on the artist being vaccinated for Hepatitis B.

"If appropriate disinfection and sterilization techniques are used, the health risk associated with tattooing is small."

--National Institute of Environmental Health Sciences



Tattoo Healing Times & Aftercare: With proper aftercare, tattoo sites usually take about 7-10 days to heal. Aftercare is extremely important—not only for your health—but also for proper healing. For specific aftercare protocols, refer to my "Body Art Weblinks" section at: www.ronjones.org/Weblinks/BodyArt.html.

Tattoo Removal: Tattoos should be considered "permanent." Even though tattoo removal is possible, scarring results and it is very difficult to completely remove a professional tattoo. New "Q-Switched Lasers" do the best job for removals. There are four basic tattoo removal methods: **laser surgery** (light pulses break up pigment), **excision** (pigment is actually cut out), **dermabrasion** (skin is frozen then sanded off), and **salabrasion** (skin covered with water/salt solution then rubbed off like dermabrasion). **Black ink is the only color that can be 100% removed.** Blue, red, orange, and purple are more difficult to remove. Green and yellow are the *most difficult* tattoo colors to remove. Newer tattoos are not as faded and harder to remove. Professional tattoos are also harder to remove because they tend to be deeper.

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- Professional tattoos may require about 5-6 treatments to remove as compared to amateur tattoos that may take 2-4 treatments.
- A tattoo that cost \$50-100 can cost \$1000-1500 to remove.
- Tattoo removal takes multiple sessions and can take 5-10 months.

“Piercing Points”

Piercing: There are at least 24 types of basic piercing and 39 advanced forms. Complications from body piercing vary considerably by piercing site. Proper **ear lobe** piercing heals quickly and is usually free of problems as compared to **upper ear** (pus abscess can permanently deform ear), ***navel** (irritated by waistline & moisture, *45% infection rate!), **nipple** (can damage milk-producing ducts in women), **tongue** (damaged teeth, nerves, & gums, *endocarditis* heart damage, skin allergies), **nose** (sinus infection getting into blood), and **genitals** (for obvious reasons!). Always use a *professional piercer* and NEVER get pierced at the mall by a piercing gun! Piercing guns cannot be sterilized properly with an autoclave.

Hiring a professional piercer and strictly following aftercare protocols will improve healing and reduce potential problems!



Piercing Checklist: The **Association of Professional Piercers** (APP) has a great “Choosing a Piercer” checklist on their website at www.safepiercing.org. In summary, check for: autoclave tests records; no reuse of needles; general cleanliness; no piercing guns; knowledgeable piercers; quality jewelry; an aftercare sheet; license; studio age requirements; can you view the piercing rooms and your set-up, and are they recognized by APP?

A quality-piercing studio will have **5 separate areas**: counter, waiting room, piercing room, bathroom, and SEPARATE sterilization room.

Piercing Jewelry: Use only non-corrosive metal such as ASTM and ISO 5832-1 *implant grade* stainless steel, niobium, titanium, platinum, or SOLID 14k-24k gold. “Gold plated” jewelry should NOT be used.

General Healing Times for Body Piercing

Ear Lobe (6-8 weeks)	Ear Cartilage (4 months-1 year)
Eyebrow (6-8 weeks)	Nostril (2-4 months)
Nasal Septum (6-8 months)	Nasal Bridge (8-10 weeks)
Tongue (4 weeks)	Lip (2-3 months)
Nipple (4 months-1 year)	Navel (4 months-1 year)
Female Genitalia (4-10 weeks)	Male Genitalia (4 weeks-6 months)

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“Additional Types of Body Art”

Branding: Branding is becoming popular as identifications for brotherhoods, college fraternities, and gangs. Branding permanently marks the skin through burning. There are three types of branding: **Fire Direct, Multi-Strike, and Finline Electro-Cautery.** The two primary branding methods are the cauterizing pen (better for fine & flowing lines) or the more popular “multi-strike method” (better for straight lines). Initial designs are usually stenciled or drawn then the brand design is burned in with repeated strikes of stainless steel segments called strikers (.010-.015” thick) that are heated cherry-red to about 2400°. Branding is tricky because as the skin heals it spreads. Non-professional brands with overly complex designs or patterns will spread and “fill in” therefore losing the original design lines. Complex brands with multiple parts and strokes (like cattle brands) do not work well on human flesh. **Human flesh will spread 2-3 times wider than the striker used to make the brand.** Professional body artists specializing in branding know how to compensate for skin spread. *NEVER get an amateur brand!* Human brands can only be performed successfully by a professional artist breaking the design into many smaller strokes or strikes. Branding is a **very skilled process** that cannot be done well without proper training and experience, so be careful *who you brand with!*

Cupping: Cupping has been performed for nearly a thousand years primarily for diagnosis and healing in China and the Middle East. Today cupping is a more obscure form of *temporary body art* that involves placing a globe-shaped jar (an “inspirator” in the East) over the skin while holding a small heated flame inside. As the jar heats, a vacuum is created then the jar is quickly dropped onto the skin pulling the skin into the rounded jar. After 20-30 minutes the jar is removed leaving large red welts that can last for up to a week. Welts are sometimes formed in specific patterns to increase aesthetic value.

Ear Pointing: The upper ear is reconstructed to resemble an “elf” or Dr. Spock. Changing this form of body art requires *significant ear reconstruction* if a reversal is desired.

Implants: Body art implants are not breast implants. For body art, a three-dimensional object made of Teflon or surgical steel is implanted under the skin between the fascia and epidermal layers. Scarring then occurs and keeps the objects in place. An emblem can be placed under the skin or a group of objects representing a shape or design like the “Metal Mohawk” on forearms or even devil horns on the front scalp area. There are two forms of implants. **Subdermal** implants are completely covered by skin, and **transdermal** implants begin under skin but then protrude outside. As with scarification, the skin barrier is completely broken therefore increasing risks for infection unless a medically sterile and professional environment is present.

Piercing: (Ear Tunnels) These are large-gauge piercing holes much larger than standard ear rings. Over a period of time, the ear lobe opening is progressively stretched larger and larger. The ear lobe can be inserted with a solid plug or an open cylinder. Large ear tunnels require *significant ear reconstruction* if a reversal is desired.

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Scarification: Scarification is similar to tattooing. The skin is permanently marked by penetration—or cutting. There are many methods of scarification, and the scar will depend upon the method used. To scar, the cut must penetrate the second layer of skin called *dermis*. Scarring is performed by a **scalpel** (straight scars), a **tattoo machine without pigment** (allows circular scars), or **skin removal** (more intense & recessed). Sometimes ink is rubbed into the cuts to further distinguish scars from tattoos, but the ink usually wears off. Note the potential risks for serious infection due to open skin barriers unless performed in medically sterile and professional environments and the critical importance of after-care with scarification.

Suspension: A form of body art exhibition where large hooks are usually driven through skin, or, hooks are fastened to existing piercings. The person is then suspended for minutes to hours. Sometimes one person with embedded hooks will be attached to another with a series of pulleys and attachment hardware. One of these people then pulls, or suspends, the other off the ground as s/he walk away from the suspended person. Some suspensions do not require invasive breaking of skin barriers because they use ropes and knots to attach the person to the pulley mechanism.

Tongue Splitting: The front portion of tongue is split in two with scalpel, string, or burning tool. ***Note:** *The tongue is a major site for bacteria*; therefore, having an open tongue wound is a major concern! It is also dangerous to have any infections in the mouth because of cardiac complications and the mouth being so close to the brain. Additionally, the tongue has an important job with digestion and taste. There are 10,000 taste buds in the tongue; it is a very complicated and important body organ, so be careful!

“Infection Risks & Hygiene Issues”

Comments: The *skin is the largest organ in your body* and serves a very important role as *the primary “barrier” to outside infections*. The process of most body art involves breaking the skin barrier therefore opening your body up to outside infections. I would advise anyone about to get body art to consult a physician about having **current immunizations** including *tetanus* and *Hepatitis B (HBV)* and to carefully follow important “aftercare procedures” to facilitate optimal and safe healing. ***Note:** *Post-tattoo infections are such a concern that blood cannot be donated for a full year after getting a new tattoo.*



Sterilization & Equipment: Any reputable shop will have an autoclave machine and records for its use and testing for you to view. ***If they don’t have an autoclave with proper records—LEAVE!*** Shops in general should be “**medically clean**” due to broken skin barriers. *See my website for detailed articles.

- **Autoclave:** Specialized equipment used to sterilize medical instruments along with tattoo and piercing equipment. An autoclave uses heat, steam, and pressure—it’s essentially a “pressure cooker” that ***kills pathogenic microorganisms***. Autoclaves must maintain 246 degrees for at least 30 minutes to fully sterilize equipment.

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- **Universal Precautions:** Artists should use medical latex gloves and treat everyone as if they “were infected” with a disease including themselves.

Hepatitis: Unlike HIV, *Hepatitis is a very strong virus that can live for months outside of the body and infect a person with just a scratch of an infected needle.* There are 5 types of Hepatitis: A, B, C, D, & E. The two of primary concern for body art are hepatitis B & C.

Hepatitis B: (HBV) HBV is a virus that causes inflammation of the liver that can lead to cirrhosis and cancer. *HBV is the biggest threat with body art infections;* however, there is a HBV vaccine to prevent infection. (The HBV vaccine is a 3-shot series that takes 6 months.) HBV is dangerous—a small amount of HBV in blood can live outside the body for 2-3 months. Even a small amount on a counter or phone can be a problem. **INSIST** on your artist having a HBV immunization—and see a doctor about getting one yourself!

Hepatitis C: A New Epidemic

- HCV is now an epidemic throughout the U.S. It is estimated that 4 million Americans are infected with HCV and 2.7 million Americans are chronically infected.
- The CDC is now conducting a large study to evaluate tattooing as a potential HCV risk.

Hepatitis C: (HCV) HCV is a virus that also causes inflammation of the liver that can lead to cirrhosis and cancer and can even kill. Unlike HBV, there is **NO vaccine** to prevent HCV. In the U.S., *HCV is the most common blood-borne infection* and the major reason for most liver transplants. **Reports on HCV regarding body art are considerably varied and not agreeable.** For example, the CDC HCV Position Statement cites, “...no data exist in the U.S. indicating that persons with exposures to tattooing alone are at increased risk for HCV infection.” However, the CDC also reports on their HCV Fact Sheet that HCV can be transmitted through “needlesticks and sharps exposure on the job” and that there is a “low risk for healthcare/public safety workers.” In opposition to the CDC Position Statement on HCV, the Mayo Clinic cites the March 2001 issue of *Medicine* article reporting “...**33% of people with a tattoo had HCV compared to 3.5% of those with no tattoos...people with tattoos are nine times more likely to be infected with Hepatitis C.**”

Bottom Line: HCV can be transmitted through needles. The CDC admits to the HCV risks with sharps exposure and cautions, “The impact of HCV infection may explode over the next 10-20 years.” Others like the Mayo Clinic and WebMD.Com lists HCV as a much higher risk for tattoo clients. *It is better to be cautious and follow all safety protocols and guidelines “just in case” HCV is in fact a major issue with current tattoo and body art practices.*

Staph Bacteria: Staph bacteria infections have been an increasing problem since the 1950s after the invention of penicillin. Originally localized in clinical settings like rest homes and hospitals, staph infections are now common throughout community settings

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and the primary cause of most skin infections. **A particular type of staph infection called MRSA is of particular concern.** MRSA (methicillin-resistant *Staphylococcus aureus*) is a specific type of bacterial “staph” infection that is resistant to beta-lactam antibiotics like methicillin (one of the strongest antibiotics) and other less powerful antibiotics. MRSA can easily be spread through a small portal of entry like found with body art and can be VERY difficult to eliminate from a body or physical setting. Worst case scenarios of MRSA cause flesh-eating bacteria that cause amputation or even death in just a matter of days. See Ron Jones [MRSA Information](#) for more details.

HIV/AIDS: Unlike Hepatitis, HIV is a fragile virus that does not survive well outside the body’s regulated environment. It is “possible” to get HIV through body art; however, the CDC reports there are “no known cases of HIV transmission from tattooing or piercing.” However, many piercing sites heal much slower than tattoos. A piercing that is “not healed” leaves a portal of entry in the skin barrier. HIV needs a *portal of entry* to infect; therefore, “if” an unhealed piercing site came in direct contact with infected body fluids, a person could be infected with HIV. It is unlikely that *the actual body art process* would transmit HIV, but remember, any open wound is a high-risk area in the presence of infected body fluids.

Ink Supply: Insist to see the artist ***pour NEW ink into a NEW disposable ink container.*** ALL leftover ink should be destroyed after each tattoo session—and NEVER REUSED for the next client! According to the USFDA, there are more than 50 different pigments and shades of tattoo ink. NO “color additives” have been approved for tattoo injections into skin! Color additives are for cosmetics—not tattoos. Also, many tattoo inks are not approved at all for skin—some ink being used today for tattoos are industrial colors only suitable for printer’s ink or automobile paint! *Professional artists use approved pigments with single-service equipment and ink supply—more reasons for seeing a pro!*

Special Risk Problems: The primary problems with body art are: ***infection, removal, allergic reactions, granulomas*** (nodules form around material like tattoo pigment that body perceives as foreign), ***keloid formation*** (scars that may grow beyond normal boundaries when skin is injured or traumatized), and ***MRI complications*** (can experience swelling & burning in affected areas & reduced image quality). Concerning body art jewelry, how do you get an oral x-ray with a tongue piercing? How do you safely remove a piece of body art jewelry in an emergency situation? Are medical professionals even trained on how to handle body art problems? According to body art expert Dr. Myrna Armstrong, “medical practitioners are not educated about how to treat infections and other health problems associated with body piercings in particular.” It is estimated that most doctors do not know how to safely remove body jewelry without “cutting” the jewelry—cutting can cause the tissue to be torn upon removal of the jewelry.

Many professional body artists are now “self-regulating” by aligning with professional organizations like The Alliance for Professional Tattooists & The Association of Professional Piercers.

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Body Art Regulations: Regulations can be imposed by state and county health departments, but inspections are not as frequent as they should be—or present at all. Few states have hygienic regulations for body art shops and even fewer monitor and enforce standards that do exist. **Currently there are NO body art regulations in California** just statute laws requiring body artists to register with the local health officer and to comply with sterilization, sanitation, and safety standards (Health & Safety Code 119300 et. seq.); however, there are no uniform policies specifically for *body art* sterilization, sanitation, and safety standards in CA (general medical guidelines are usually applied). Some counties have already implemented their own body art ordinances or municipal codes beyond the state statute.

- Body artists do not have to be licensed—but should be as other medical professionals needing to work in medically clean environments. Body artists are not regulated by state and local governments to follow the same rules for sterile practices and operations as medical facilities.
- Reputable body art studios will not serve minors without **photo identification** and **signed consent** of parents or guardians.
- Some piercers will not perform certain piercings on minors even if no regulation exists to restrict the piercing. Some shops go further by refusing to pierce or tattoo anyone under the age of 18. In CA, it is against the law to tattoo a minor without adult consent (Penal Code 653).

Closing “Points”

I'm not *recommending* body art to anyone nor am I trying to *discourage* anyone from getting truly professional body art that has been seriously considered as a responsible adult. I'm educating. Body art can be safe with professional artists that strictly use and follow safety protocols to preserve a medically clean environment at all times. **No minors should be allowed to obtain body art of any kind without serious consideration and limitations.** This handout is by no means a substitute for further research or consulting a medical professional about body art infection risks. I suggest you also explore the websites below for further review because this handout merely summarizes basic body art information.

The largest problems with body art infections are in unprofessional and non-sterile settings like amateur shops with poorly trained artists that are basically unregulated along with parties, raves, tattoo kits, tattoo experiments at home, and prisons.

“The body is a sacred garment. It is the your first and last garment. It is what you enter life in and depart with, and it should be treated with honor.”

--Martha Graham

Important Websites: (Self-Regulation & Check List Handouts)

- www.safe-tattoos.com (**Alliance of Professional Tattooists**)
- www.safepiercing.org (**Association of Professional Piercers**)
- www.ronjones.org/Weblinks/BodyArt.html (**Ron Jones**)

References: About.Com; Alliance for Professional Tattooists; American Dental Association; Association of Professional Piercers; California Department of Health Services; California Hepatitis Resource Center; Centers for Disease Control; Children's Virtual Hospital; Fakir Musafar; Hepatitis Foundation International; National Institute of Environmental Health Sciences; Terra.Com; Myrna Armstrong & Texas Tech University; U.S. Food & Drug Administration; WebMD.Com.

* **Ron Jones (12.17.07)**

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