

## **Tips for Tats**

James Kerner M.D., PhD.

*Board-Certified in Dermatology*

In this handout I cover the following tattoo planning considerations: risks, contraindications, preparation, ink selection, proper wound care, long-term care, sun protection, complications and their treatment, and removal. At the end of this handout is a quick summary for making the whole process safer, too, that makes an efficient reference. My protocol is easy, safe, and designed to minimize the risk of complications and maximize ink retention in your tattoos.

While the information below is useful, accurate and up-to-date, it is general in nature, for educational purposes only, and not tailored to any one individual. If you have questions or any difficulties I am happy to assist, if possible, but if you have complications with your inking I strongly encourage you to seek care in-person from a dermatologist familiar with tattoo problems and their treatment.

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### 1. **Risks:**

- a. **Infection.** Any time the skin is punctured, regardless of the reason, there is a risk of infection. With proper skin preparation, good technique by the artist, and post-inking wound care, the risk is minimal. Bacterial infections are the most common, such as with Staph and Strep species, but there are also fungal, viral, rickettsial, and prion infections that are rare or at least theoretically possible. Choose a tattoo parlor where they autoclave (pressure-cook) reusable instruments, wrap surfaces and instruments in plastic, wear disposable gloves, use antiseptic solutions to cleanse the skin, and use disposable needles and ink cups. Sterile water is best; it is not the same as distilled or purified water! Sterile water is suitable for injection and should be labelled as such. You'll see disclaimers on other types of water stating lack of suitability for injection. There are several types of hardy bacteria that can survive in tap water, UV-treated, distilled and filtered water. Sterile water is ideal for use as a diluent for inks and for cleaning needles between colors. Tap water is illegal to use in

many locales and should be avoided. Check with your artists to see what they use. If you have type of immunosuppression (including use of steroid injections), insist on sterile water.

- b. Acute aseptic (sterile) inflammation. A minor amount of redness, swelling, tenderness and itch are normal. More than a little indicates either improper wound care, allergy, reactivation of an underlying skin problem (like psoriasis, lichen planus, lupus), or infection. Below you will find relevant information to minimize the inflammation associated with the process.
- c. Toxicities and malignancies. In the United States there is very little regulation of ink components. Many of the hundreds of compounds present in tattoo inks are derived from unrelated industries, including pigments used in auto paint, textiles and plastics. There are no requirements for lists of ingredients, and contaminants can include anything and everything from nanoparticles to heavy metals. However no study has ever shown any connection between tattoo ink and needle exposure and any cancers; but new ingredients come along all the time, and so we simply don't know what the long-term problems might be. It's also clear that ink components are taken up by resident white blood cells in the skin, and also migrate to lymph nodes throughout the body. We do know as well from lab studies that both sunlight (UV-A, especially) and lasers used for tattoo removal cleave or explode pigment molecules into smaller components—and these components include carcinogens and toxins such as benzene, cyanide, and polycyclic aromatic hydrocarbons. So it's extremely important to keep tattoos out of the sun, and to consider what you get inked carefully so that the desire to remove any down the road should be low. Yes, I am a dermatologist telling you that the long-term safety of laser tattoo removal has not been established! I recommend cover-ups rather than removal via lasers. (More on removal below.) Tattoos also age poorly with sun exposure, so I say it again: *I cannot emphasize enough how important it is to keep your ink out of the sun.* And stick to inks from companies that list ingredients and perform extensive quality-control.

- d. Allergic reactions. Red, yellow, purple and blue ink are the most common ones to cause allergy. These can present acutely or take months or even years to develop. Photoallergic eruptions to yellow and red inks (from cadmium and also azo dyes) can occur after sun exposure; black ink can cause lichenoid reactions that mimic certain autoimmune diseases of the skin. Elevation of inked skin, itch, oozing and swelling can develop with any of these allergic reactions; treatment can be difficult and often requires long courses of medications, steroid injections, and even surgical excision as laser modalities risk anaphylaxis.
- e. Activation of underlying skin disease. Provocation with the trauma of needling the skin and/or ink components can elicit local outbreaks of a variety of skin diseases in susceptible individuals. Patients with psoriasis, lichen planus, sarcoidosis, lichen sclerosus, pyoderma gangrenosum, vitiligo and other conditions are at risk and need to exercise additional caution and take appropriate precautions as outlined below. However on a happier note I can tell you *that there are no absolute contraindications to getting a tattoo.*
- f. Scarring and pigmentary changes. These occur from trauma, and the risk can be minimized with anti-inflammatory strategies, meticulous wound care and sun protection.
- g. Complication of skin exams. Dark, dense and large tattoos obscure the skin. Changes in existing moles and the development of new pigmented lesions can be very difficult to observe within such body art, even for a dermatologist, without research-grade equipment. Existing moles should be avoided by tattooists; clients at increased risk for melanoma and other skin cancers should stick to lighter colors and smaller projects.
- h. MRI problems. Some inks contain metals that can react with strong magnetic fields. Anyone with ink should inform MRI technicians accordingly, and if any sensation of warmth develops in inked skin during a scan the imaging process should be discontinued.

- i. Social stigma. Many societies remain ambivalent about people with tattoos. This is especially true with head and neck ink, obscenities, or tattoos that connote incarceration or gang membership. Consider your career and job aspirations before you get 'F\*ck' and 'You' inked on your eyelids!

**2. Contraindications.** It should be stressed again that *there are no absolute contraindications to getting inked*. However extra caution and planning are warranted in some situations.

- a. Profound immunosuppression. Clients with autoimmune disease, cancers, organ transplants and anyone taking immunosuppressive medications must exercise caution and take extra precautions to avoid infection. Steps are outlined below.
- b. Diabetes. Inking below the knee should be avoided by diabetics, as the risk for infection and poor healing are high.
- c. Congenital heart disease. Antibiotics should be taken before, during and after inking on advice of a medical professional. Extra care in preparing and treating the skin are critical to avoid bacterial seeding of malformed or prosthetic heart valves.
- d. Bleeding disorders. Patients with hemophilia, low platelet counts or other conditions affecting clotting should avoid inking large surface areas over consecutive days and unnecessary medications that thin the blood.
- e. Personal or close family history of melanoma. The biggest risk factors for melanoma are having either already had one or a strong family history (melanoma in one or more first-degree relatives). Having more than 50 moles and doing a lot of commercial tanning are also significant risks. Tattooists should avoid inking over existing moles and at-risk clients should not get large, dark pieces.
- f. Dysplastic nevus syndrome. People with 50 or more moles, or those who have had moles removed and characterized histologically as abnormal or 'dysplastic' should take the same precautions as those suggested for melanoma survivors.
- g. Koebnerizing disorders. The phenomenon mentioned above, in which traumatized skin develops particular skin disease in susceptible individuals, is termed the *Koebner*

*Phenomenon.* These clients must do whatever they can to minimize the inflammation associated with inking.

- h. Pregnancy and breast feeding. There is little data regarding the safety of inking while pregnant or breast feeding. Deleterious effects on fetuses can have life-long consequences, and so caution and bias towards delaying inking are warranted.

**3. Preparation.** I recommend both universal and situation-specific approaches to minimize the risk of complications and maximize the quality of results.

a. ALL CLIENTS.

- i. Hibiclens (chlorhexidine) is an excellent antiseptic that can be purchased over-the-counter. Dilute one part Hibiclens with four parts water in an old shampoo bottle, and starting two weeks before inking rinse the target area with the mixture daily. Do not use on head or neck as Hibiclens is toxic to eyes; for such tattoos use benzoyl peroxide 5-10% wash instead. (Keep in mind that BP wash can bleach the color from fabrics and some hair dyes.)
- ii. Minimizing inflammation and drainage after inking can be accomplished via several methods. Zyrtec (cetirizine) and either Allegra (fexofenadine) or Claritin (loratadine) should be taken twice-daily each starting two weeks before inking. This combination does exceed the recommended dosages but is safe and effective. It's especially useful for clients who tend to get swelling of their skin with scratching or pressure (dermagraphism).
- iii. Aggressive sun-protection with a broad-spectrum sunscreen must be started a month before inking. I recommend sunscreens such as EltaMD, Skinceuticals or any with an SPF of at least 40, based on zinc or titanium, and containing iron oxide as a secondary ingredient. Have sun-protective clothing available for after inking, since sunscreens can only be used on healed skin.
- iv. Shave the skin to be tattooed with an ELECTRIC razor the morning of a session. Avoid manual shaving as the tiny cuts made increase risk for infection. Encourage your artists not to shave you with a razor blade.

- v. Acetaminophen and ibuprofen should be started an hour before each session and continue throughout the day according to manufacturer dosing recommendations.
  - vi. Bring an occlusive dressing such as Second Skin or Saniderm with you to the session. Occlusive dressings speed wound healing and decrease the risk for complications. If your artist is not familiar with these have them practice with a piece before using them on you. They have three layers: A paper backing and nonstick plastic sandwiching the sticky dressing layer in the middle. After cutting an appropriate piece, the paper is removed, the sticky side is applied middle-first and smoothed out towards the sides without stretching. Then the nonstick plastic is removed.
- b. Clients with heightened infection risk (or history of skin infections).
- i. Add mupirocin ointment to the antimicrobial regimen. Wipe the lower third of nostrils and body folds (neck, armpit, groin, breasts and abdomen) twice daily for the two weeks preceding inking. This is a prescription drug.
  - ii. Ensure that the area to be inked is clear of acne, fresh wounds, abscesses or other infections (cold sores, fungus, yeast).
  - iii. Consider taking doxycycline monohydrate 100mg twice daily from seven days before to seven days after the inking. Doxycycline should be taken with low-calcium food and plenty of water; avoid lying down for a full hour after any dose. Be VERY careful with the sun! You will burn MUCH faster than you do normally. If you cannot take doxycycline because of allergy, drug interactions or substantial stomach upset, alternative antibiotics include azithromycin (250-500mg every other day with food) or ampicillin (500mg twice daily).
- c. Clients with Koebnerizing disorders.
- i. See your clinician to get an intramuscular injection of a steroid suspension. I recommend 40mg of Kenalog for thin (under 100lb), 60mg for average (between 100 and 160lb), and 80mg for large (over 160lb) clients. The

injection should be given the day before inking, and will work for multi-day ink sessions. Keep in mind that Kenalog should be given no more often than every three months; cut your dose in half if you intend to get inked more frequently than that, and do not exceed more than four injections of any amount per year. Such injections are not recommended for patients with poorly-controlled diabetes or osteoporosis. These injections are almost always safe, though there are rare risks including fat atrophy, osteoporosis, or hip necrosis. When done properly, though, the risks are extremely low.

- ii. Treat the target area with a mid-potency, prescription topical steroid (triamcinolone, mometasone or the like) for seven days prior to the session. Do not exceed this as there is a risk for thinning of the skin and other side-effects.

d. Clients with autoimmune diseases or profound immunosuppression.

- i. Discuss with a clinician whether any changes to your treatment regimen are warranted. Such decisions are to be made on a case-by-case basis only. Steroid injections should be avoided in those already immunosuppressed, and the sterile technique of your artist becomes all the more important.

4. **Ink selection.**

- a. Limit your inks to those listing ingredients and employing independent quality-control testing for purity and sterility. Inks listed as 'vegan' are usually a safe bet; excellent brands include Intenze and World Famous inks. Choose tattooists and parlors using only quality inks. If you aren't sure about an ink, check the company's website: if they go to the trouble of paying for extra quality control testing, they'll be sure to tell you all about it.
- b. Avoid colors with which you have had problems in the past.
- c. Avoid darker colors if you are at heightened risk for skin cancer, particularly melanoma.

- d. Avoid darker colors and reds and yellows in areas where lots of sun exposure may be unavoidable.
- e. Avoid paler colors (pink, yellow, light blue) and stick to darker and bolder colors if you have darker skin. Otherwise contrast and visibility may be poor.

5. **Wound care.**

- a. After inking is finished (and no further work will be done till after healed), ask your artist to clean with a gentle antimicrobial cleanser (such as Saniderm Foam Soap, Sorry Mom, Green soap, Second Skin Soap, Mad Rabbit or H2Ocean) and let your skin air-dry.
- b. Apply an occlusive, breathable dressing (Saniderm, Derm Shield, or Ink Guard). You may need assistance—working with the three-layered product takes a little practice. Avoid stretching the wrap, and if you get any bubbles press them out through the nearest edge. If your tattoo crosses a joint or other flexible area, it's a good idea to align separate pieces of the dressing to avoid tugging on your skin with movement.
- c. Leave the wrap on for 24 hours. In the shower, heat the dressing up to loosen the adhesive, which can be quite strong. Do not pull the wrap off aggressively! (You'll take some nice ink, and skin, with it.) Slowly work your way down from a corner, continuously wetting and warming the plastic and adhesive. Once the wrap is fully removed, cleanse the area gently with your foam cleanser and once again air-dry. Place a new set of plastic over your ink. Leave this dressing on for a full five days. It's fine to shower and resume normal activities, though vigorous exercise may overheat you or loosen the ink and should be avoided. Second Skin is easier and less painful to remove than Saniderm, though it can peel a little, especially over joints, and may need an extra strip or two over the five days.
- d. After the fifth day, remove the dressing as before and cleanse. Inspect the tattoo for any scabbing; there should be little to none, as at this point the wound is almost fully healed. Apply a balm of your choice (Second Skin, Mad Rabbit, Sanibalm, Hustle Butter, Cerave or Vanicream ointments) thinly over the healed areas, and more thickly over any that has even the slightest amount of scabbing. Usually you'll find



scabs only on areas near dressing edges that lifted off your skin. Continue daily routine antimicrobial wash and twice-daily balm application until there are no scabs or any tender areas. Your tat is healed!

#### **6. Long-term care and sun protection.**

- a. Mild soaps like Dove, Cetaphil and Cerave are good. Anything that is gentle on your skin will be gentle on your ink, too. Moisturizers with ceramides (Cerave, among others) are excellent and you don't need anything specific for tattoos at this point. Keep your ink hydrated and it will give you many years of pleasure.
- b. I cannot overstate the importance of sunscreen! Don't let anyone tell you that ultraviolet rays don't penetrate into the dermis (where your ink resides). UV-B is almost completely absorbed by the epidermis, but the longer-wavelength UV-A and visible light both reach the dermis quite readily. As mentioned above, solar radiation is not only bad for you but also for your ink, and can break down pigment molecules into carcinogens and other toxic compounds. So wear quality sunscreen, even on cloudy days. Also consider high-SPF clothing (Coolibar, Solumbra, Sun Solutions)—in the long run it's quite a bit cheaper than sunscreen.

#### **7. Complications and their treatment.**

- a. Infection. If your tattoo becomes warm and tender and if you notice pus, red streaks or discharge beyond the first day or two after inking, you may have an infection. You'll need to see a clinician for further work-up and treatment. Don't just hope for the best! You could completely ruin your ink, or worse.
- b. Allergic reactions. Depending on the severity, you may be treated with topical, intralesional, or systemic steroids; antihistamines; and other, topical or systemic immunomodulators (such as colchicine and/or hydroxychloroquine). In severe or refractory cases you may need to have a problem color or area removed surgically. Under NO circumstances should you consider laser tattoo removal as treatment for allergy! You would risk a potentially fatal anaphylactic reaction. Primary care

clinicians are not trained to manage tattoo problems—please be sure to see a dermatologist.

- c. Activation of underlying skin conditions. See a dermatologist if you develop any kind of a rash or unusual reaction at the site of your tattoo. In rare cases the rash could be the presenting sign of a potentially serious condition, such as sarcoidosis. Let your dermatologist know about any other symptoms you may have developed, too.
- d. Scarring and pigmentary changes. These can be managed by a dermatologist with topicals, injectables or both. If you lose pigment in the area you may have vitiligo; I do not recommend UV treatment in this setting for the reasons outlined above.

## **8. Removal.**

- a. Laser. Lasers have become more and more effective for removing tattoos. The latest devices fire a high-energy wavelength of light for one trillionth of a second (!). While the tech is incredible and the results excellent, studies have shown that lasers can fragment pigment molecules into a variety of toxic substances, and in significant quantities. No harmful effects have been proven in humans, but the laser technology is relatively new and long-term problems (including cancer) cannot be assessed in the short run. My recommendation is to limit laser removal to small tattoos only, if at all (a few square centimeters at most), until long-term safety studies are available. Consider instead a cover-up tattoo rather than laser removal.
- b. Dermabrasion. This is basically a device with a dremel that sands down a tattoo. Since it's only mechanical, there should be no risk of creating toxic compounds in your skin. There is, though, more of a risk of scarring, and like lasers this modality should not be used to treat any allergic reactions.
- c. Excision. A dermatologist or plastic surgeon can excise problem tattoos or portions of tattoos (like a single color). It's a safe option and can achieve excellent cosmetic results, though is expensive and has its own risks. The best approach to tattoo removal is choosing your design and artist very carefully—so you don't ever need or want to remove it.

### **TAT TIPS CHECKLIST:**

- Choose a professional tattooist with a good reputation and a clean and modern studio. Don't be afraid to inquire about safety practices, especially if you are immunosuppressed.
- Choose inks that list ingredients and are subject to independent testing for toxins and bacteria, such as Intenze or World Famous.
- Unless you have pale skin and can't tan, use on your target skin a mineral-based sunscreen (zinc or titanium, plus iron oxide; Elta or SkinCeuticals) starting one month before inking.
- Two weeks before, start daily 1:4 Hibiclens rinses from the neck down in the shower. If you're going to ink your head or neck, use benzoyl peroxide 5-10% wash instead.
- Two weeks before, start Zyrtec (cetirizine) and either Allegra (fexofenadine) or Claritin (loratadine) twice daily each. (Yes, this is safe.)
- If you are at higher than average risk for infection, or have had significant skin infections, one week before inking start Doxycycline (or another suitable antibiotic) 100mg twice daily and exercise very careful sun protection. Also start mupirocin (Rx) twice daily to nose and skin folds.
- If you have any inflammatory skin disease (psoriasis, lichen planus, eczema, lupus, sarcoidosis among others), consider an injection of a cortisone suspension like Kenalog 40-80mg a day or two before inking. Such injections should be done no more than 4x/yr, and done in conjunction with oral antibiotics.
- On the morning of your session, use an electric razor to shave the area to be inked. Do not use a blade, and discourage your artist from using one, too.
- One hour before your session, start taking acetaminophen and ibuprofen according to dosing instructions on the bottles.
- Bring to the session a quality, mild antimicrobial wash for tattoos as well as an occlusive dressing of choice. If your artist isn't familiar with the dressing, cut a small piece and practice applying it beforehand. Second Skin and Saniderm are excellent dressings.
- After your inking is complete (or at the end of a multi-day session), ask your artist to wash your skin with the antimicrobial soap, let it dry, and carefully apply the occlusive dressing. Use separate pieces over mobile areas like joints.
- After 24 hours, slowly and carefully remove the dressing in a hot shower. Let dry in air and then re-apply another dressing.
- After five full days, carefully remove the dressing in the shower, wash with your mild antimicrobial soap, and start twice-daily application of an emollient of choice. Apply extra to any areas that feel rough to the touch or are tender. Continue antimicrobial washing daily.
- Once there are no rough or tender areas in the tattoo, you can stop the emollient and resume normal skincare. At this point you should use a sunscreen of at least SPF 40 made from zinc or titanium, plus iron oxide, if your ink is in a sun-exposed area. Congrats! Your ink is fully healed. Moisturize the area daily with Cetaphil, Cerave or Vanicream.