

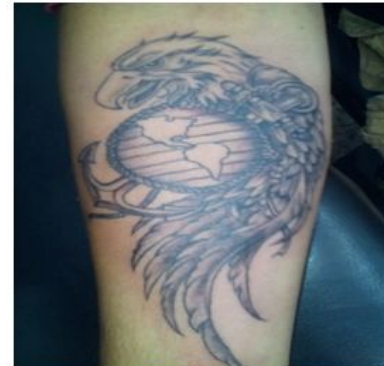


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TO TATTOO OR NOT TO TATTOO

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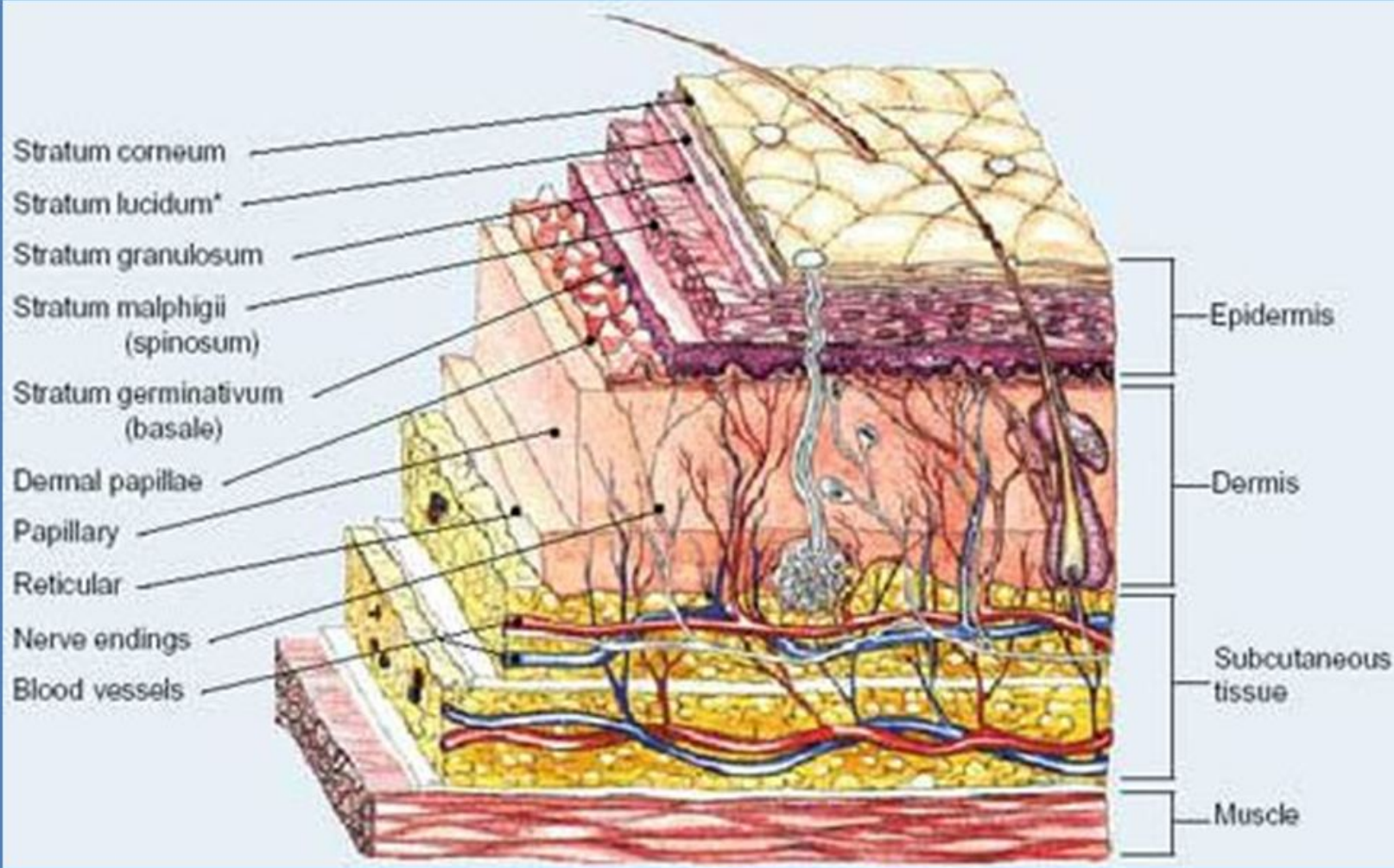


History of tattooing

As evidenced by mummified preserved skin, ancient art and the archaeological records, tattooing was practiced by the **paleolithic** (*early phase of the Stone Age*) period in Europe.

Term “Tattoo” became the number one search term on the Internet in 2002. Of those who have tattoos, 70% have more than one tattoo and 20% have more than five. 36% of Americans between the age of 18 and 29 have at least one tattoo.

A tattoo is a form of body modification where a design is made by inserting ink, dyes or pigments, either permanent or temporary, into the dermis layer of the skin to change the pigment.



Tattoos fall into three broad categories: purely decorative; symbolic; pictorial.

How tattoos are done

A tattoo is a either permanent or temporary mark or design made on body skin with ink inserted through pricks into the skin's top layer.

Typically, the tattoo artist uses a hand-held machine that acts much like a sewing machine, with one or more needles piercing the skin repeatedly. With every puncture, the needles insert tiny ink droplets.

The process — which is done without anesthetics — causes a small amount of bleeding and slight to potentially significant pain.

Tattoo inks

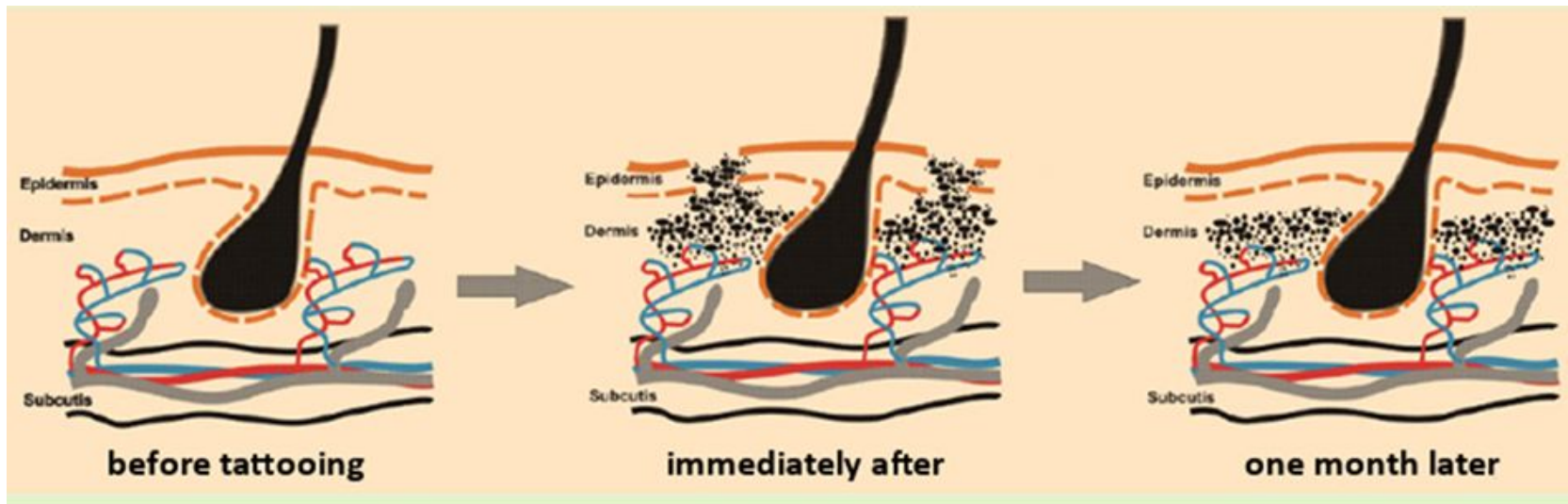
Tattoo inks may be made from titanium dioxide, lead, chromium, nickel, iron oxides, ash, carbon black, and other ingredients. Some of the pigments are industrial grade and used as automobile paint.

Some red inks used for permanent tattoos contain mercury, while other reds may contain different metals like cadmium or iron oxide.

When receiving a tattoo, body skin is pricked between 50 and 3,000 times per minute by a needle in the tattoo machine.

How deep do tattoos go in body skin

Skin has a total of 3 layers: Epidermis , Dermis and subcutaneous tissue. The tattoo needle depth should penetrate into the Dermis layer with the aim of depositing the ink in a region of 1.5 to 2 millimeters below the surface of the skin. If the depth is too shallow, it will only penetrate into the epidermis sub layers and the ink will “bleed out” as the tattoo heals.



Skin structure and pigment layering

There are many reasons a tattoo may blowout and it's particularly difficult to pinpoint which has been the cause of any one instance. ... Mistakes by tattoo artist like heavy handedness can allow the needle to go too deep into the skin or at a slanted angle which allows the ink to spread to neighbouring tissue.



Tattoo risks, side effects and precautions

FDA (Food and Drug Administration) has received reports of bad reactions to tattoo inks right after tattooing and even years later. Reports include:

Allergic reactions. Tattoo dyes – particularly red, green, yellow and blue dyes – can cause allergic skin reactions, such as an itchy rash at the tattoo site. ... also might cause allergic to other products, such as hair dyes, if a tattoo contains p-phenylenediamene (PPD). ...

Skin infections

Antibiotics kill most infections, but some tattoo infections don't respond to antibiotics. If the tattoo artist is using needles that have been used on other people, these needles can infect others with diseases such as HIV and hepatitis.

MRI (Magnetic Resonance Imaging) complications. Rarely, tattoos or permanent makeup might cause swelling or burning in the affected areas during magnetic resonance imaging (MRI) exams. In some cases, tattoo pigments can interfere with the quality of the image.

It's also not known if it's harmful for tattoo pigment particles to accumulate in the lymph nodes. So far, evidence suggests such deposits may cause enlargement of the lymph nodes and some blood clotting. But long-term studies in humans are needed to definitively link tattoo ink in lymph nodes to any harmful effect.

Ordinary civil society regarded the tattooing as a crazy idea, but tolerated it among sailors as a sign of pride in their profession. Otherwise, they took it as an indication of criminality, prostitution, or insanity.

Take good care of your tattoo

How you care for your new tattoo depends on the type and extent of work done. Typically, however, you'll need to:

Keep the tattooed skin clean. Use plain soap and water and a gentle touch. While showering, avoid direct streams of water on the newly tattooed skin.

Use moisturizer. Apply a mild moisturizer to the tattooed skin several times a day.

Avoid sun exposure. Keep the tattooed area out of the sun for at least a few weeks.

Avoid swimming. Stay out of pools, hot tubs, rivers, lakes and other bodies of water while your tattoo is healing.

#Choose clothing carefully. Don't wear anything that might stick to the tattoo.

Allow up to 2 weeks for healing. Don't pick at any scabs, which increases the risk of infection and can damage the design and cause scarring.

If you think your tattoo might be infected or you're concerned that your tattoo isn't healing properly, contact your doctor.

#If your tattoo isn't what you expected and you're interested in tattoo removal, ask your dermatologist about laser surgery or other options for tattoo removal.

#Avoid swimming. Stay out of pools, hot tubs, rivers, lakes and other bodies of water while your tattoo is healing.

Tools for Tattooing

Ötzi's tattoos were based on the most primitive of tattooing methods. The skin was cut deeply using a sharp cutting edge, and crushed charcoal was rubbed into the bleeding wound. After the wound had healed, sufficient charcoal still remained present in the dermis.

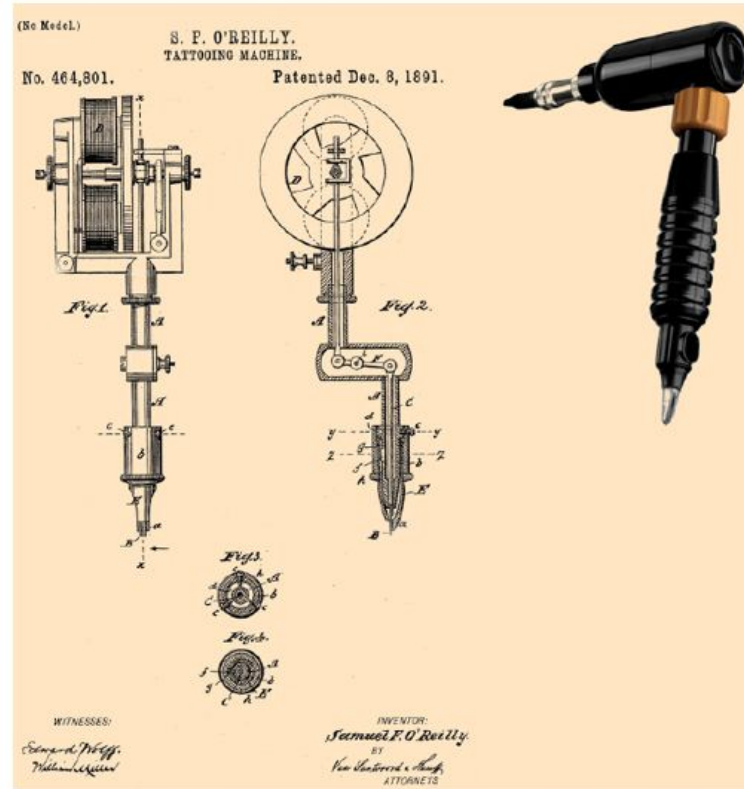
A major improvement on the process was the introduction of the coloring matter with needles. This technique was practiced already in ancient Rome and made possible the creation of patterns and figures with a considerably greater richness of both form and detail (see fig. bellow).



Ötzi the Iceman, dating to between 3400 and 3100 BC
The mummy was found in September 1991 in the [Ötztal Alps](#)



Ancient tattoo tools



Depiction of a modern tattooing device with a rotary drive

A tattooist today works with electrical application devices based either on a spooling or a rotational principle. Both methods are employed, but rotational systems are gaining increasing favour due to their simpler handling (lighter weight, more ergonomic). With frequencies between 70 and 170 Hz and a penetration depth of up to 4 mm, needles previously dipped in colouring matter are driven into the skin by the device.

Repeated application provides both an even distribution of colour and maximum saturation. Complex skin painting in numerous styles is thereby facilitated. The pain factor is not reduced, however. To the contrary: because of the higher rate of pricking, the pain actually increases relative to the traditional Thai method of manual tattooing.

Insist on safety precautions

To make sure your tattoo will be applied safely, ask these questions:

Who does the tattooing? Go to a reputable tattooing studio that employs only properly trained employees. Keep in mind that regulation requirements and licensing standards vary from state to state. Check with your city, county or state health department for information on local licensing and regulations.

Does the tattoo artist wear gloves? Make sure the tattoo artist washes his or her hands and wears a fresh pair of protective gloves for each procedure.

Does the tattoo artist use proper equipment? Make sure the tattoo artist removes the needle and tubes from sealed packages before your procedure begins. Any pigments, trays or containers should be unused as well.

Does the tattoo artist sterilize non disposable equipment? Make sure the tattoo artist uses a heat sterilization machine (autoclave) to sterilize all non disposable equipment between customers. Instruments and supplies that can't be sterilized with an autoclave — including drawer handles, tables and sinks — should be disinfected with a commercial disinfectant or bleach solution after each use.

Removing a permanent tattoo can be done, but it is relatively painful and expensive, some tattoo removal procedures may leave permanent scarring.

In addition to possible skin damage and infections, tattoos can impact your daily life on a social level.

How to Remove a Tattoo at Home

Tattoo Fading Methods That Work

- 1. Hydrogen Peroxide:** This faded and lightened tattoo. There is major results, but the ink still remained below the surface.
- 2. Lemon Juice:** Although lemon juice is used as a bleaching agent, its effect will only work on the top layer of the skin and cannot penetrate beneath that layer to remove tattoo pigments.
- 3. Salicylic Acid:** It made some fading. This is another ingredient that works great on the epidermis but cannot penetrate into the layers of skin where the ink sits.

4. Exfoliation: Pumice stones was used to rub away the skin. Like dermabrasion, exfoliation is intended to slough off the upper layer of skin and promote the growth of new skin that would hopefully cover up the tattoo. The results were minimal.

5. Removal Creams: Whether you use a specific cream for tattoo removal, like Wrecking Balm, or a lightening cream, like Skin Doctors SD White, you will end up spending a lot on these products before you see some fading.

Popular Ways to Get Rid of a Tattoo

1. Laser: The fastest, safest, and most effective way to remove an unwanted tattoo is laser. Laser works by repeatedly targeting the ink with pulses of highly concentrated light, which breaks the ink into tiny fragments that are then naturally removed by your body.

2. Surgical Excision: Until laser was invented, surgical excision was the only way to remove an unwanted tat. This process involves cutting away the tattooed area and stitching the skin back together. Scarring is likely to occur with this method.

3. Dermabrasion: This method uses a rotating device with a rough surface to sand away the upper layer of skin. As with surgical excision, you will likely develop a scar.

4. TCA (Trichloroacetic Acid): TCA is a chemical peel that abrades the skin superficially and does not effectively remove permanent ink.

5. Intense Pulsed Light (IPL): This method is similar to laser in that it also uses an intense beam of light to target the ink. The difference is IPL uses a broad spectrum light, which makes it versatile for other purposes, such as hair removal. On the other hand, laser uses a narrow light that can specifically target a particular color. IPL is less painful because it is less intense, but the pulses are larger and less targeted, so the surrounding skin area can get damaged. IPL is also less effective and much more expensive.

