

WHEN FOREVER IS NOT FOREVER

Tattoos and Lasers... Coming and Going

Some tattoos hang around like uninvited guests perched at the edge of your pool on a warm summer's weekend and are just as hard to get rid of. There are any number of reasons as to why someone would want them removed, from an improper procedure, a regretted dare acted upon in one's youth or perhaps Rocko's idea of "Flo Forever" doesn't quite get beyond the next girl to wiggle by his Harley.

Body coloring is not a new phenomena and by now anyone who cares knows that it's been around since the pharaohs. Archaeologists have evidence of Egyptian women using green ore of copper as an eye shadow as early as 5000 B.C. They also used henna to dye their hair, carmine to redden their lips and kohl to blacken their eyebrows, lids and lashes. Thousands of years ago it was common place for Indians to use saffron to tint their faces yellow and also to dye their feet, their cheeks and the tips of their tongues.

In Asia Minor, women and men, smeared their faces with litmus and marshmallow and the Babylonians shaded their lips with red in the belief that the color would prevent demons from entering their bodies. I wish I had known about the Babylonians when I was a kid, hiding under my covers at night.

Mummies with tattoos intact, dating back thousands of years have been discovered not only in Egypt but throughout Europe, Siberia and other areas, showing that not only has the practice been around for a long time but that it has been a world wide occurrence.

These days there are many mummies with tattoos, and daddies and sons and daughters in fact this continent alone in the past 20 years is estimated at having a population of at least 12 million North Americans walking around as body billboards boasting at least one tattoo of some kind or another.



When tattoos are discussed generally it speaks to styles such as cosmetic, as in permanent make-up or corrective procedures as in camouflaging of scars or areola reconstruction post breast surgery then there are the decorative kind as in birds and butterflies and dragons.

Tattooing is the implantation of a pigment, derived from organic and/or inorganic compounds, into the dermis layer of the skin thereby ensuring the long lasting effect of the procedure. This is achieved through any number of methods from the archaic bamboo method which is a needle threaded onto a bamboo stick, through to the state of the art digitally controlled computerized tattoo machine like the Nouveau Contour Intelligent or Digital 700.

The success of a procedure is dependent on a combination of many factors, any one of which



could determine the failure of the process, failure being the fading away into nothingness of the tattoo. The disappearance takes place when the pigment only reaches the epidermis or upper layer of the skin and the natural shedding or exfoliation of the skin peels away the layers taking the color with it. Depending on depth this can be over a period of days, weeks or months.

Properly performed, meaning by a trained technician with appropriate equipment, and not by someone seated with a sewing needle, shaky hand and an inkwell, a tattoo will literally last forever.

Decorative tattoos or body art come in and out of fashion like long hair and short skirts.

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The 80's brought in butterflies and dolphins and the 90's boasted tribal armbands. The new millennium had the lower back designs to tie in to the low rise hip huggers and the latest and greatest are the hanzi and Kanji tattoos meaning written in Chinese and Japanese characters and "there's the rub" as Shakespeare wrote in Hamlet.



Asian lettering is easily misconstrued and a misplaced stroke can totally change the meaning of the phrase. Ask Britney Spears who was looking for "Mysterious" and instead got "Strange". Rocko's "Flo", Britney's "Strange" and a host of other faux pas' are some of the reasons for having decorative tattoos removed. Rarely do people with cosmetic tattoos seek to have them erased, unless there is a flaw or mistake, as these markings are generally make-up enhancements or cosmetic corrections that people want for the duration.

As with most things technology is keeping pace with our constantly changing necessities and obstacles that were in our face in the past are no longer insurmountable. What used to be permanent can now be transient in that we can remove these tattoos, no doubt a relief to the person who thought they had "in love" but instead had "in toilet".

In the not so distant past removal of tattoos was a major issue where the cure was worse than the disease because the process left distorted skin and unsightly scars. A real catch 22. Do you look in the mirror with disdain every morning at your scared arm or do you look at your latest flame who is looking at you with disdain, cause good old "Flo" is still a small part of your life.

One removal technique was dermabrasion, or the "sanding" of the skin. This was a process where not only the surface of the skin was removed, which is a natural process, but also the middle layers which left skin disfigurement.

Another method was to surgically remove the unwanted design by either covering the area with a skin graft, particularly if it was large masterpiece, or by making an incision and flapping the skin over the area. Either method left a nasty impression on the old pelt.

In later years the medical laser was used, a successful removal process if you could stand the pain but that could be also said if you amputated the arm. These early lasers were complete fubar's in what they did to the skin when experimenting with tattoo removal. The original lasers were industrial in design with a continuous beam of light and were used for the precision cutting of steel. They were later adapted to the medical field but the outcome on tissue was never exact.

It wasn't until 20 years later when lasers with short individual pulses of light were introduced did surgical procedures become accurate and efficient and revolutionary but even at that they were not adapted to the process of tattoo removal without issue. For one thing, no one machine could satisfy the removal process of all colors, and second the pulses, even though measured in microseconds, which is a pulse one millionth of a second in duration, was still too long a time on the skin for the intensity of the light. The body has one of the best air conditioning systems ever made but it needs recovering time and microsecond technology is still not fast enough to get in, get out and get the job done and save harmless the surface of the skin.

The lasers that were developed for tattoo removal use short, high energy pulses, a method known as Q-switching such as the Q-switched Ruby or Q-switched Alexandrite but the newest, most advanced and efficient is the Q-switched Nd:YAG. The Q-Switch acts as an extremely high speed shutter and allows the Nd:YAG rod to store a large amount of energy. A short voltage pulse is applied to the Q-Switch which changes its ability to pass polarized light. The change allows a single, high energy, high speed pulse to exit the machine to the chromophore or target, in this case the tattoo. This pulse pulverizes the pigment in the dermis of the skin without harming the surrounding skin, allowing the small particles to be washed out of the body naturally through the lymphatic system. •

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Until recently multi-colored tattoos required the services of more than one type of laser machine in order to obtain the various wavelengths needed to service the mixture of colors. For example dark colors like black use 1064 nm beam and is relatively easy to remove and green and some yellow is looked after by a 650 nm beam. Blue requires 585 nm and red 532 nm so you can see the amount of balls to be kept in the air. The latest machine to arrive on the market, the Medlite™ C6, a Q-switched Nd: YAG is as of this date the only laser capable of addressing the requirement of multiple wave lengths through one machine. Utilizing nanosecond technology which is a pulse a billionth of a second in duration the system looks after 1064 nm and 532 nm wavelengths then employs the Multilite™ which is a Dye Laser hand piece used for the 585 nm and 650 nm beam which is achieved by a frequency conversion of the 532 nm wavelength. The skin is not traumatized other than reddening and is the most patient friendly system on the market.

While technology has advanced, for both having tattoos implanted as well as being removed, there is still an element of discomfort for both applications depending on the procedure and where it is being applied. The sensation of the pulse can be compared to an elastic band being snapped at the skin and depending where that snapping is happening will depend on how loud you scream. For example the bicep would not be as sensitive as the base of the back and for some persuasions the buttocks might actually be enjoyable. Generally non Aspirin products like Tylenol is prescribed prior to the procedure because products for inflammation like Ibuprofen can invoke post-procedural bruising. There are also topical anesthetics that can be used in the hours before and if they are creams they are removed just before the games begin.



The good news is that most treatments only take minutes. The bad news is that those minutes are generally expensive, but then what is expensive if you want to rid yourself of a tattoo on your forehead of your winning score from the Superbowl pool draw.

Depending on the type of tattoo and the length of time a persons has had it will depend on the amount of treatments that will be required. New tattoos are the most difficult to remove particularly if they have been implanted by a professional. Amateur tattoos are the easiest as they are generally self applied and are not settled in to the dermis.

Pricing of course depends on where you go. It also appears more expensive because the session lasts for so little time but the investment in the technology for proper equipment can be in the hundreds of thousands of dollars so it's not a time thing. Generally there is a fee simply to turn on the machine plus pricing can be calculated at so much per the square inch or if it's small an agreed upon amount by the technician based on the size. Once again depending on the number of colors and the size of the target area and the location, multiple visits would be in order. On the other hand amateur or jailhouse designs or lettering have been known to be removed in one session.

There are many reasons to have tattoos whether it is Permanent Make-Up, Corrective Cosmetics or Body Art and with access to new technology in laser science for tattoo removal, "forever" can be as everlasting as "Flo's" name on a bicep so decisions can be reversed. However, at the end of the day heed the saying "Caveat Emptor" and research the credentials of any and all who are getting under your skin, coming or going. ■

by Darwin Gauthier

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The company is a training academy for Permanent Make-up and Corrective Cosmetics as well as a distribution centre for products and equipment to perform the service. The company also uses the latest technology in laser equipment for the safe removal of unwanted tattoos and permanent make-up error corrections