Reversing Tattoos

by Dr. Wade Cheng, PhD

Editor's Note: *Tattooing, or permanent makeup is now part of many salons' service menus.*
Tattoo removal may be quite tricky—most doctors feel strongly that it is best left to them, and Dr. Pardo discusses the medical method for removal on page 151.
Dr. Cheng presents his approach, which he feels is safely available to estheticians, in this article.

The art of corporal pigmentation originated in Egypt in 2,800 B.C., and extended to Crete, Persia, Greece, and Arabia. By 2,000 B.C., corporal tattoos were recorded in Southern China. Since 1,100 B.C., the art traveled toward the south, i.e., Japan, Taiwan, the Philippines, and the islands of the Pacific, reaching New Zealand by 450 B.C.

During the Civil War in the U.S., the application of corporal tattoos became a usual practice in the army. Since the mid-20th century, a tattooing technique termed "permanent makeup" has been used on facial areas, for procedures such as creating or enhancing eyebrows, eyeliners, and lipliners. Today, permanent makeup has become quite popular all over the world. Although permanent makeup and body tattoos are quite different words with different intents, they are the same in nature. ⇛

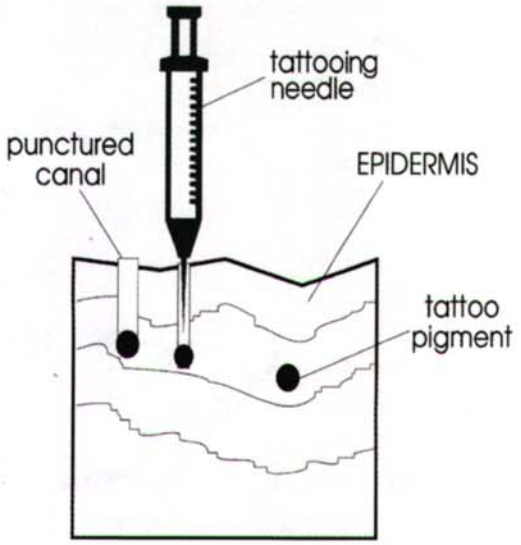

FIGURE I. puncturing the skin

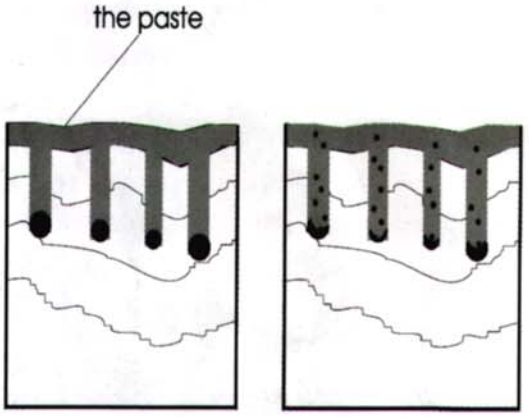

FIGURE II. extraction of tattoo pigments

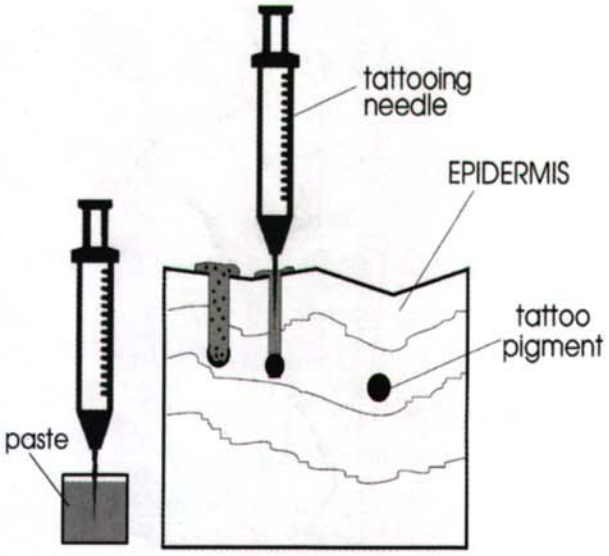

FIGURE III. dipping & puncturing alternately

What is tattooing?

The tattooing process basically consists of three steps: puncturing holes into the skin, usually within the epidermis, filling the holes with tattoo pigments, and closing up the holes through the skin's natural healing process.

The tattoo inks or pigments are classified as color additives which are inert inorganic materials, and insoluble in water and most organic solvents. Therefore, these pigments will not be diminished by the surrounding biological substances and biochemical processes. Furthermore, water detergents, solvents, and mild abrasives do not affect tattoos as there is not direct contact. That is why tattoos on the skin are permanent and tattooed eyebrows and eyeliners are called "permanent" makeup.

Why remove a tattoo?

There are a number of reasons to remove these permanent decorations on the skin, including changes in one's mind or philosophy, or the formation of undesirable shapes and color changes in the permanent makeup.

Typical tattoo removal techniques

There are various techniques that may be used to remove tattoos and most are in the dermatologist's domain. The following is a list of traditional techniques that are used to remove tattoos.

- Surgical: Removal using tissue expanders, or balloons inserted underneath the skin, so that when the tattoo is cut away there is less scarring.
- Dermabrasion: This involves sanding the skin with a wire brush to remove the epidermis and dermis.
- Salabrasion: Where the tattooed skin is soaked in a salt solution to bleach the pigments.
- Lasers: The Q-switched Ruby laser, the neodymium YAG laser, and the Alexandrite laser.

In addition, tattoo artists sometimes use a method called overtattooing or cover-up, which makes a fresh tattoo right over an existing tattoo. This method only changes the shape and color of a tattoo rather than removing it altogether.

The traditional methods have a common disadvantage. They leave permanent visible scars after treatments. Although the laser method is claimed to leave little scarring, it is color selective (one type of laser only works for certain colors) and may cause color darkening during treatments.

A new approach

There is a simple esthetic method which can be an effective and convenient tool for the correction of permanent makeup. This method may be used to remove body tattoos as well. The method involves three basic steps.

continues


PHOTO 1


PHOTO 2


PHOTO 3

The first step is similar to the tattoo-over. In other words, puncturing only in the colored skin area to provide good access to the pigments in the skin (figure 1). In this step, controlling the appropriate depth of the puncture and completely puncturing the colored area is important for a positive result. Make sure to minimize bleeding.

The second step is the extraction of tattoo pigments. Several non-pigmentary inorganic substances are carefully mixed into a paste form. These substances are chemically similar to tattoo pigments so as to be quite mixable with tattoo pigments. When the paste comes into contact with the tattoo pigments, the pigments merge into the paste and blend together. As a result, the tattoo pigments can be removed together with the paste. This process is illustrated in figure 2. In order to remove the tattoo pigments thoroughly from the skin, this extraction process has to be repeated a number of times.

The third and last step is the removal of the residual paste and the healing of the skin. After the second step, there is always some paste remaining in the punctured skin holes. The residual paste will be extruded by the skin, forming a white scab which will peel off by itself. It is very important to keep a treated area dry to eliminate possible skin infections. Just as with the tattooing process, the treated area initially shows considerable redness that will gradually diminish. A medical ointment such as Bacitracin may be applied to prevent possible infection and help skin healing after the white scab peels off. Eventually, the treated skin area will return to its natural complexion without any visible scarring. This usually takes a couple of months.

Steps one and two can be performed together for better results. This is achieved by frequently dipping the needles into the paste during the puncturing process. The increased efficiency is probably due to the forced mixing of the paste and the tattoo pigments. This method is illustrated in figure 3. The paste should be wiped off often in order to observe the degree of removal of the tattoo pigments. The process should be repeated until almost no visible pigment can be detected on the skin. This method is particularly applicable to the removal of a body tattoo.

The partial removal of tattooed eyebrows is depicted in photos 1-3. Photo 1 indicates the tattooed eyebrow before the correction. Photo 2 illustrates the redness on the treated eye 10 days after the treatment. Photo 3 shows the treated skin area after it has returned to its natural complexion, 2 months after the treatment.

This esthetic method has been used by leading permanent makeup salons for a couple of years. The success rate for permanent makeup removal is very high. Removal of small portions of tattooed eyebrows generally takes less than one hour. It is suggested that a full

continues

PHOTO 4

PHOTO 5

eyebrow area be divided into two equal sections for the removal to reduce the discomfort during the treatment. This method is not recommended for removing tattooed eyeliner due to safety concerns for the eyes.

Body tattoos

Body tattoos are usually much deeper than permanent makeup. Consequently, they are more difficult to remove, compared to permanent makeup removal. However, this method has also been applied to the removal of body tattoos with satisfactory results. The key points are to perform deeper puncturing, with more repetition, and to cover the treated areas with the paste after the treatment. The removal of a tattoo on one arm is illustrated in photos 4 and 5. Photo 4 shows the four tattooed letters on the arm before the treatment. Photo 5 shows the treated area 30 days after removal, and the area still has a slight redness, but does not have any tattoo pigments nor is there any scarring evident. The redness will diminish after a month or so.

In summary, a simple and convenient esthetic method for tattoo removal is available. The method has several advantages—no visible scars after the treatment, only inexpensive tattooing apparatus is needed, usually taking less than an hour to correct permanent makeup, and it is also applicable for the removal of most body tattoos. It should be emphasized that this method does require good experience in permanent makeup or tattooing because it is a reverse-tattooing process by its very nature. Your clients may want to check with their dermatologist to be properly advised of all the methods of tattoo removal that are available before you proceed. ■

Wade Cheng, PhD, *is Vice President and Director of R&D, Rejuvi Laboratory. Prior to this position, Wade was a senior research chemist in Biorad Laboratories and SmithKline Beecham Corporation. He holds a M.S. in analytical chemistry & Inorganic Chemistry from the University of San Francisco and a PhD in biochemistry from University of California, Davis.*