

Case Report

Tattoo Removal

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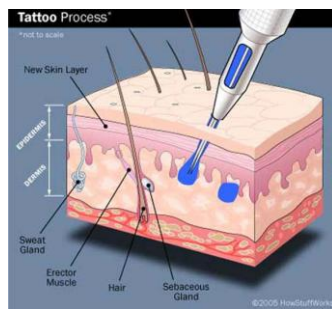
Tattoos:

Tattoos have a long history but now they have become a part of fashion and body tattoos are increasingly popular in Pakistan for 3 to 4 years. A **tattoo** is a form of body modification, made by inserting indelible ink into the dermis layer of the skin to change the pigment.

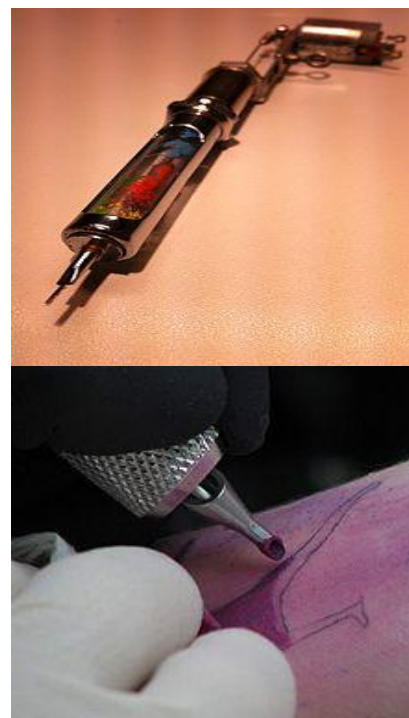


which the presence of foreign material activates the **immune system's phagocytes** to engulf the pigment particles. As healing proceeds, the damaged epidermis flakes away (eliminating surface pigment) while deeper in the skin **granulation tissue** forms, which is later converted to connective tissue by **collagen** growth. This mends the upper dermis, where pigment remains trapped within **fibroblasts**, ultimately concentrating in a layer just below the dermis/epidermis boundary. Its presence there is stable, but in the long term (decades) the pigment tends to migrate deeper into the dermis, accounting for the degraded detail of old tattoos.

Procedure:



Tattooing involves the placement of pigment into the **skin's dermis**, the layer of dermal tissue underlying the epidermis. After initial injection, pigment is dispersed throughout a homogenized damaged layer down through the epidermis and upper dermis, in both of



Complications of Tattooing:

- Bacterial Infections
- Allergic Reactions
- Hepatitis B and C
- Granulomas
- Nodules
- Keloids
- HIV



Methods for Removal:

- Dermabrasion
- Cryosurgery and excision
- Salabrasion (scrubbing the skin with salt)
- Laser
- Q-switched Laser

Laser Treatment:

Tattoo removal is commonly performed using laser that react with the ink in the tattoo and break it down. The broken down ink is then absorbed by the body, mimicking the natural fading that time or sun exposure would create. All tattoo pigments have specific light absorption spectra. A tattoo laser must be capable of emitting adequate energy within the given absorption spectrum of the pigment to provide an effective treatment.



Number of treatment sessions required:

The amount of time required for the removal and its success varies with each individual.

The **Kirby-Desai Scale** assigns numerical values to following parameters:

Skin type, Colour, Location, Amount of ink, Scarring or Tissue change and Layering.

Parameter scores are then added to yield a score that will show the estimated number of treatments required.

Patient's own immune system contributes mainly to the success of laser tattoo removal.

- Pain management during treatment:

Pre-treatment might include the application of an anaesthetic cream under occlusion for 45 to 90 minutes prior to treatment.

- Post treatment considerations:

Immediately after treatment, a slightly elevated, white discoloration with or without the presence of punctuate bleeding is often observed. Pinpoint bleeding represents vascular injury from waves created by laser's interaction with tattoo pigment. Minimal oedema and erythema of adjacent normal skin resolve within 24 hours. A crust appears over the entire tattoo which sloughs off at 14 days post treatment.

- Side effects and complications:

- ◆ Hyper pigmentation
- ◆ Transient textural changes

- ◆ Local allergic response: erythema, pruritus, inflamed nodules, papules or granulomas.

