

Tattoo removal

Unwanted tattoos can cause psychological problems, especially if they are easily visible. In the past, tattoo removal almost always led to unacceptable scarring of the skin. The development of modern lasers means that tattoos can be safely and effectively removed in most cases.

Types of tattoos

There are three main types of tattoos:

- **Decorative tattoos** are made by repeatedly puncturing the skin with a needle saturated with coloured ink.
- **Traumatic tattoos** can occur if the skin is grazed along the surface of a road and tiny pieces of grit and carbon powder enter the skin.
- **Gunpowder explosions** can cause tattooing if the gunpowder penetrates the skin.

Why tattoos are permanent

Tattoos appear under a microscope as tiny granules of colour (pigment). These granules are located in a skin cell known as a macrophage. Macrophages normally remove foreign objects (for example, bacteria) from the body. The pigment, grit or carbon powder that has caused the tattoo 'freezes' the macrophage cell so that it can't do its job. As a result, the pigment remains in the skin and the tattoo becomes permanent.

Old versus new methods of tattoo removal

In the past, a variety of methods have been used to remove tattoos, including skin grafting, dermabrasion (removing the top layers of skin), acid de-tattooing, infra-red and argon and carbon dioxide lasers. These treatments caused scarring in a large number of cases. The development of Q-Switched lasers means tattoos can now be safely removed in most cases. The Q-switched Alexandrite laser is best for removal of green pigment while the Q-switched Yag laser is better for removing blue/black pigments. This laser is also best for people with darker skin.

How the new treatments work

Q-switched lasers work by penetrating the skin and breaking up the tattoo pigments into smaller pieces. The macrophage cells are then able to clear these smaller pigments from the skin. The laser feels like a snapping rubber band. It will not damage the normal skin surrounding the tattoo.

Tattoos take weeks or months to fade

The tattoo will take weeks or months to fade after treatment. Several treatments will be required before the tattoo fades. In general:

- Self-applied tattoos require three to four treatments.
- Tattoos applied by a professional tattooist and involving several colours will require more than 10 treatments.

A low risk of scarring

As with all medical or surgical treatments, tattoo removal involves some risks:

- In less than five per cent of cases, some very minor scarring may be seen.
- Some patients also develop some lightening of the skin.

Where to get help

- Your doctor for advice and referral
- The Australasian College of Dermatologists www.dermcoll.asn.au

Things to remember

- Most tattoos can be safely and effectively removed using a modern laser.
- It will take weeks or months after treatment before the tattoo fades.
- Possible complications of tattoo removal include minor scarring and lightening of the skin.

This page has been produced in consultation with, and approved by:

Australasian College of Dermatologists

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