

Tattoo removal

People seek out tattoo removal for a variety of reasons. For the last 15 years, this has been performed safely with Q-switched lasers used in dermatology clinics. The size and extent of the tattoo and the colour of inks will determine the time and cost factors involved.

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.
- **Cosmetic tattoos** such as lip liner, eyeliner and eyebrow tattoos, are usually applied by a beautician.
- **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 and other 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

Fortunately, the variety of methods used in the past to remove tattoos, including skin grafting, dermabrasion (removing the top layers of skin), acid de-tattooing, infra-red and argon and carbon dioxide lasers are now obsolete and should not be used.

The development of Q-Switched lasers means tattoos can now be safely removed in most cases. The Q-switched Yag laser is better for removing black, red and other coloured pigments. This laser is also best for people with darker skin. The Q-switched Ruby laser is best for removal of green pigment, although some blue and green pigments remain difficult to remove.

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 months to fade

The tattoo will take months to fade. Multiple treatments are required to stimulate the body's immune system to fade the tattoo. In general:

- Self-applied tattoos require six to ten treatments.
- Tattoos applied by a professional tattooist and involving several colours will require more than 10 treatments.
- Treatments are spaced at six to eight weekly intervals.

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 may develop some lightening of the skin or mild textural change.

Where to get help

- Your doctor for advice and referral
- The Australasian College of Dermatologists.

Things to remember

- Most tattoos can be safely and effectively removed using a Q-switched laser.
- It will take months after treatment before the tattoo fades.
- Possible side effects of tattoo removal include minor textural change and lightening of the skin. Scarring is a rare complication.
- It is important to seek treatment from a dermatology clinic that has Q-switched YAG or Ruby lasers.
- IPL machines (often used for hair removal) should never be used for tattoo removal.

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

Australasian College of Dermatologists

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