

# Tattoo Removal Backgrounder



Body art, such as tattoos, have fascinated mankind for centuries and have already been found in ancient Egyptian, Greek, and Roman cultures. In the past, such body markings served to enhance beauty, provide healing, declare belongings, and were even used to identify criminals and slaves. The symbolic importance of tattoos has endured through the present day. However, although tattooing in ancient times was reserved for a select few, the invention of electric tattooing machines in the 20th century made tattooing available and affordable for all. It is estimated that 38% of men and women between the ages of 18 and 29 years have at least one tattoo. The prevalence of tattoos has significantly increased over the past 20 years, consequently, increasing the demand for their removal. Surveys suggest that up to 50% of may regret having a tattoo, 11% consider removal and approximately 6% actually seek tattoo removal. Reasons for removal may vary from embarrassment, low self-esteem, problems with clothing, changing of life roles, medical problems, and stigmatization<sup>1</sup>.

Tattoo removal has been performed with various. While tattoos were once considered permanent, it is now possible to remove them.

Pre-laser tattoo removal methods include dermabrasion, salabrasion (scrubbing the skin with salt), cryosurgery, and excision which is sometimes still used along with skin grafts for larger tattoos. The main drawbacks of these methods are that they are non-specific to the tattoo particles, have prolonged healing times and might leave scars.

The concept behind laser tattoo removal is based on the mechanism of permanent tattooing. Tattoos consist of particles of tattoo pigment suspended in the skin. While normal human growth and healing processes will remove small foreign particles from the skin, tattoo pigment particles are permanent because they are too big to be removed. Laser treatment causes tattoo pigment particles to fragment into smaller pieces. These smaller pieces are then removed by normal body processes.

Tattoo removal by laser was performed with continuous-wave lasers initially, and later with Q-switched lasers, which became commercially available in the early 1990s. These high power nanosecond pulse durations were safe and effective in removing tattoos but required numerous sessions, frequently requiring 12 or more for complete clearance.

PicoWay™, Syneron-Candela's new and innovative picosecond dual wavelength laser has been developed to address this market need more effectively with fewer treatments than traditional Q-switched lasers.

PicoWay has received CE Mark indication to treat tattoos of all types and colors and pigmented lesions on any skin type. The new dual wavelength device, with 532 nm and 1064 nm wavelengths, delivers energy to the skin using pulses which are trillionths of a second, known as picosecond pulses. PicoWay's high peak power and shortest pulse duration on the market enable a unique mode of action which creates the strongest photo-mechanical impact to break up the tattoo ink or pigmentation into much smaller particles than Q-switched lasers, resulting in most effective clearance in fewer treatments.

The revolutionary PicoWay technology is integrated into a proven, reliable Candela platform with full flexibility to adjust wavelength, fluence, spot size and rep rate and a Featherweight™ handpiece with unique ergonomics.

[www.syneron-candela.com](http://www.syneron-candela.com)

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<sup>1</sup> New tattoo approaches in dermatology. Luebberding S, Alexiades-Armenakas M. Dermatol Clin. 2014