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will eventually go wrong and somebody will get hurt. You will end up being sued for it too. Awkwardly it delays lasering, but it is essential.

PHOTOGRAPHS

Photos are great for keeping a record. Customers often can't see any change in their tattoo as it slowly dissolves over many weeks. Show them the photo and watch their surprise at how much has gone.

PHOTO-MECHANICAL

Less heat, more shatter of the tattoo. Requires an expensive laser to be really effective. The cheaper lasers may deliver a slightly more photo-thermal effect, which as the name suggests is more likely to damage the skin with heat. This is more likely, in part, because the lower power leads untrained operators to go over and over the same area and this leads to heat build up without any significant removal.

PROFESSIONAL LASER BUSINESS

Lasering is best handled as a business in its own right but sits very well with tattoo studios if set up well. Requires insurance, investment, management, someone to run it, servicing, promoting, etc. This is the antithesis of having a laser under the counter. Is there enough work for a laser? How many tattoo kits are sold on eBay these days to amateurs and kids?

PULSE

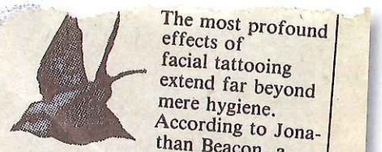
The energy in the pulse is measured in Joules. A tattoo laser gives out small pulses unlike the continuous wave laser that threatened to cut James Bond in half. A pulse can be, say, seven to ten billionths of a second in length and travels at 300,000 kilometres in one second. Almost instant.

Q-SWITCH

An electronic device that dams the energy until it reaches a higher critical threshold and allows the ramped up energy to burst out at greater power but much more quickly. This shortens the pulse from millionths of a second to billionths of a second. Essential for laser removal or reduction as the heat exposure from the pulse falls below the thermal relaxation threshold. Lasers with a Q-switch work via a photo-mechanical effect rather than a photo-thermal effect (like hair removal lasers).

R20

This is a new technique that is being trialed. It appears that, providing 20 minutes is left between treatments, multiple laser sessions (four is suggested) can be done at the same time with the objective being a quicker removal of a tattoo. The results appear to speed up the whole process which means less removal time, one of the major problems in laser reductions. However, there has to be a cautious approach (this is still a trial) as there is a risk of thermal damage and scarring, and heavy tribals or type V and VI (darker/ black) skins are not recommended for R20 treatments.



The most profound effects of facial tattooing extend far beyond mere hygiene. According to Jonathan Beacon, a consultant surgeon whose paper on tattoo removal appeared in the October 1979 'Annals of the Royal Society of Medicine', there is little doubt that at least some customers will eventually suffer psychological oppression from their tattoos — even a gradual, but complete, distortion of their personal image. It is a problem that is so obviously impossible to escape: every time the tattooed person looks in the mirror, he sees the cause of his torment. In some cases, says Beacon, just the *knowledge* of a tattoo — even though it is well concealed, in the groin, perhaps — can lead to profound depression.
Not one skinhead I talked to ad- [illegible] having doubts about tat-

RECORD KEEPING

Part of a professional approach. Important for knowing what the customer's requirements are and to help overcome problems that arise. May be necessary for defending yourself if taken to task. Care is required with customer's confidential information.

REDUCTION

Sometimes a tattoo cannot be gotten out, but weakening a tattoo will aid cover-up work hugely.

REPETITION RATE

The number of times a pulse is fired at the skin. An Nd:YAG laser can fire at ten times a second and is like a machine gun. The inefficient ruby laser can only generate a pulse at a pedestrian once a second.

RUBY

A ruby laser was the first laser proper to be made. It generates laser light at 694nm wavelength which is red and therefore will break up green tattoos. An inefficient laser with a slow use rep rate of one spot per second and with the tendency towards hypo-pigmentation it is not usually the first choice of laser (that honour goes to the Nd:Yag). Also a more expensive laser and more difficult to get hold of. But it can eke out pigments, when used with moderation, that nothing else can. Ruby lasers use a real ruby, though it is shaped like a cigar.

SCAR

Damage caused by cutting, heating and burning. Lasers win over other removal techniques because they do not need to cut the skin to get in there and Q-switching hugely reduces the potential for heat build up.

SELECTIVE ABSORPTION

The laser is targeted to hit only the colour of the tattoo and won't do anything until the tattoo absorbs the light. The choice of laser relative to what is being removed determines this.

SPOT SIZE

As the pulse hits the skin, the area that it covers can be adjusted using lenses. In this way if the spot is 5mm it will be less damaging than if refocused to 2mm, regardless of how much energy was in the pulse. This is how power is adjusted to take into account skin type, colour of tattoo, depth, etc, to achieve the best clinical outcome. It is similar to refocusing and intensifying sunlight through a magnifying glass to create a campfire.

TATTOO TROUBLE

I was a groupie until I met a lovely man who is not in the music business. We haven't slept together, although I want to, but I've a good reason for not. In my wild days I had a tattoo of one of my lover's names put on my bum. My new boyfriend doesn't know about my past and I'm terrified that if he sees it he'll think I'm a slag, and won't want anything to do with me. How can I get rid of it?

There's no way to remove a tattoo without causing permanent scars: laser removal leaves white scar tissue and a skin graft will always slightly show. Even if you did have it removed (your doctor could recommend a plastic surgeon, but you'd have to pay) your new boyfriend would probably notice the scar and ask about it. You can't build a lasting, loving relationship by hiding your previous life. Be honest: confess all and you'll prove that you're a trustworthy person who's serious about the relationship. Handle it carefully and he might not be as shocked as you expected.

STIMULATED EMISSION

Simply? The repetitive process where atoms are excited to produce photons which in turn promote more photons. This chain reaction creates a cascade of photons (light particles) that build up a laser beam.

THERMAL RELAXATION

There is a threshold whereby laser light can be introduced into your skin that if kept to minimal exposure and controlled power will not cause enough heat to damage the skin. Expose above that and heat will cause damage. An example would be where the operator goes over the same area several times and the heat builds up. Going over the thermal relaxation threshold risks scarring. The threshold is determined mathematically.

TREATMENT PARAMETERS

Primarily pulse duration, wavelength, spot size and fluence. This is what we set to control the outcome of treatments. The cheaper the laser the less control over the treatment parameters you are likely to find built into your device.

IS THERE ENOUGH WORK FOR A LASER? HOW MANY TATTOO KITS ARE SOLD ON EBAY THESE DAYS TO AMATEURS AND KIDS?

TYPE 3B-4 LASERS

A class 1 laser is seen to be inherently safe and would usually irritate you enough to look away, thereby protecting your vision. A class 3b-4 laser is high risk, will blind you and can burn you. Therefore goggles and other safety protocols would be required.

YAG LASER

Actually an Nd:YAG: The active medium is an Yttrium Aluminium Garnet, doped with Neodymium (a cigar-like rod). Primarily it takes out black/ blue tattoos. Generates a light at 1,064nm within the invisible infra red band of light. An Nd:YAG laser has certain benefits. It is relatively cheap compared to a ruby and easier to get hold of. It often comes frequency doubled so it can attack reds which increases its scope for tattoo removal beyond other laser systems. It sits in a wavelength that doesn't tend to notice blood, melanin or water, and therefore ignores the skin alone while hitting the tattoo. It is described as the gold standard removal method. TM

You just have to try it and hope for the best. It's not one of those things you can try once, decide you don't like — like S&M, chicken jalfrezi balti and ballroom dancing.