



Laser Skin Resurfacing

What you need to know about this skin rejuvenation treatment

by Dr Eileen Lew

FOR A SOCIETY desiring beauty and youthfulness – and for those determined to combat the signs of ageing or past injuries, the world of aesthetic medicine offers the gifts of facial rejuvenation. With the development of novel laser and medical technology, treatments against pigmentation, scars and wrinkles are now available, giving smoother, healthier, younger-looking skin. And while these past years have not exactly delivered the perfect elixir, they did introduce some scientifically solid and significant advances in anti-ageing skin care and technology.

The Evolution of Laser Technology

The laser technology used in medicine today has come a long way in the past 40 years. Fueled by the public's increasing demand for minimally invasive aesthetic procedures and advanced anti-ageing technology, many new laser devices can be found in the market claiming to treat almost every condition – from simple fine lines to scars and skin cancer.

In the past, the most common laser treatment for facial lines and acne/traumatic scars was the carbon dioxide (CO₂) laser system in a continuous beam mode. This resulted in the removal of the entire epidermis (superficial layer of the skin) and a portion of the dermis (deeper layer of the skin). As a result, physical downtime with the CO₂ laser in the past was long, typically lasting more than a week, and depending on the device and the laser settings, potential adverse effects were more widespread. These potential adverse effects include pain, swelling, persistent erythema (redness), infection, post-inflammatory hyperpigmentation, and the most problematic of all, hypopigmentation following the ablative procedure, seen in some patients even years following laser surgery.

In today's hectic lifestyle, discerning women and men are seeking aesthetic treatments with lesser downtimes and risks, but yet desiring the same remarkable improvements. There are various laser treatments available on the market, and if one is considering laser resurfacing, it's important to consider all possible options before making that commitment to a particular laser treatment.

Laser Resurfacing Treatments

In general, laser resurfacing treatments fall under one of two categories:

ablative lasers and non-ablative lasers. Both laser options can give you significant improvements, but they differ in the final result produced.

Non-ablative lasers such as CoolTouch and Fraxel Restore are less invasive than ablative treatments. They work by heating up the targeted tissue, without actually destroying it. This process stimulates the production of collagen to reduce unwanted skin imperfections such as fine lines or wrinkles.

As they do not resurface the skin as invasively as ablative lasers, multiple treatment sessions are usually necessary to achieve obvious clinical results. However, patients benefit from minimal downtime.

Ablative lasers such as CO₂ are generally more invasive, but can produce excellent clinical results. Moving forward from the continuous beam mode of the past, the anti-ageing breakthrough of this decade is a skin-resurfacing treatment known as *Fractional CO₂ laser* therapy.

Fractional CO₂ laser works by vaporising a small percentage of the outer layers of the skin. What it does is to create very precise bursts of light energy into several layers of the skin in a dotted pattern, creating tiny zones called micro thermal zones (MTZ). In between these MTZ are areas of untreated skin, which, during the healing process, act as a reservoir for efficient skin healing and restructuring, and collagen production. Fractional CO₂ laser is excellent for treating visible signs of ageing, and its results are generally long-lasting. It can also be used to treat (depressed) acne scarring, pigmentation irregularities and unwanted lesions. It is important to note, however, that ablative lasers may require a slightly longer recovery period.

The Smartxide2 CO₂ laser machine, a highly regarded and advanced Fractional CO₂ laser system (some say the gold standard), combines the



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powerful abilities of both bipolar Radiofrequency (RF), which stimulates intense rejuvenation of collagen in the dermis, and CO₂ laser, for optimal skin resurfacing. With its upgraded technology, the Smartxide2 delivers powerful results, with the benefits of even shorter downtime.

What may be expected after the treatment?

Improvements are usually seen after the first treatment with the Smartxide2 system. Post-laser treatment, one may experience some redness and swelling in the first two days. Many tiny white dots may be seen, but usually only on close observation. Depending on the laser settings used, these tend to fall off within the next four to six days. Sun protection is strongly reinforced before and after the treatment to prevent post-treatment hyperpigmentation.

Who are suitable for laser resurfacing treatment?

In general, most patients are suitable for laser resurfacing. However, there are several instances where caution is advised. Patients with darker complexions may be at risk for

pigmentation with any laser treatment, so care has to be taken with their laser settings. Patients at risk of keloid formation or those that scar easily should also discuss their risks in detail with their physician.

In conclusion, laser skin resurfacing remains one of the most popular aesthetic treatments in helping patients combat the visible signs of ageing and scarring. However, the type of laser, skin tone, ethnicity, existing skin damage and skin health are various factors that can influence the level of effectiveness one can expect from laser skin resurfacing. If one is considering laser skin resurfacing, review all your possible options and consult a medical professional so that an appropriate treatment plan can be tailored to meet your desired goals. eh



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