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LASER SKIN REJUVENATION

Man's quest for beautiful skin goes back for thousands of years. Women who have beautiful skin spend a fortune looking after it, and those who desire to have beautiful skin go to extraordinary lengths to achieve it and may spend a fortune too. Good skin makes one look youthful and also makes one feel good about oneself. Bad skin can turn people into recluses and psychological ruins.

Unfortunately, good skin is inherited, as is bad skin to some extent. Good skin can become bad, if not looked after. The main factor in ruining good skin is largely sunlight because of our obsession with having a tan. There is no doubt that tanned skin looks both good and healthy, but it may also be hiding things we don't want to see, such as acne scars and lines. A dying man can look quite healthy if he has a good tan. Acne can also ruin good skin, and if allowed to continue for a long time, can lead to irreversible scarring. Many women with oily thick skin and large pores feel that their skin is bad. True, such skin is more prone to acne, but on the whole is likely to last longer before signs of ageing appear. There is a lot of misconception about what constitutes good skin. Most women feel that thin, pale skin with invisible pores is good, but nothing can be further from the truth. It may look good, but it is not going to last. Such skin is easily damaged by UV light, and loses elasticity more rapidly, as witnessed by facial lines and folds. The best skin, in reality is somewhere between thin and thick, and not too sensitive to sunlight. Black skin is the best and very few black women ever venture into face-lifting.

The most reliable sign of ageing are wrinkles. They represent the wear and tear of repeated facial movements, gravity and sun damage. Wrinkles can be covered with layers of make up, attacked with fruit acids or retinoic acid and plumped up with collagen, etc. All these are temporary and very often unsatisfactory attempts at "curing" the problem.

What is needed is something which will get rid of the lines and at the same time tighten the skin. Tightening, can of course be achieved by face-lifting but this does not remove lines, it merely stretches them. Lack of facial expression will also reduce wrinkles; if you don't laugh you will not have laughter lines!

It has been known for a very long time that by injuring facial skin superficially, new skin will form without lines. This was originally achieved by acid burns and from the 1950s by dermabrasion, a form of sandpapering. The problem with chemical peeling was its unpredictable nature; the deeper the burn the better the result, but also the greater the chance of scarring and permanent loss of skin pigment. The effect could also be uneven due to varying absorption of acid in different parts of the face. Different acids also produced different effects by penetrating the skin to varying depths. The deeper they reached, the greater the chance of developing scarring and permanent loss of pigment.

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Dermabrasion, or mechanical planing of the skin using a fast revolving diamond wheel, or brush was entirely dependent on the operator's skill to control the depth of the injury. This could be very difficult since with increasing depth, the skin became more bloody, and judgement of depth more and more difficult. The operator also had to take into account the thickness of the patient's skin and some areas of the face were simply too dangerous to treat for fear of tearing it.

Lasers have been used in medicine since the early 1960s, and are now firmly established in treating pigmented and vascular lesions, tattoos, hair, and lately, skin ageing and scarring. Laser is an invisible light of enormous energy, capable of destroying a specific target, such as pigment or blood vessels without injuring anything else in its vicinity. Lasers used for skin ageing and scarring have an affinity to water and work by evaporating it through heat.

There are now two types of laser used for this purpose: the CO₂ laser, and Erbium: YAG. Both are capable of removing unwanted layers of skin, but their effects are slightly different. The CO₂ laser is capable of producing deeper injury and more likely to remove deep lines and scars. Moreover it has the ability to shrink skin collagen, resulting in marked tightening of the skin. This effect is particularly beneficial in the treatment of some deep lines, especially around the mouth and eyelids, resulting in reshaping as well as smooth skin. However, as the injury to the skin is fairly deep, this also leads to prolonged redness (erythema) which may last for 10-12 weeks. In rare cases, especially in those who have very sensitive skins, this process may take even longer. The end result of CO₂ laser resurfacing is excellent. It is rare for lasered skin to develop scarring, because the depth of injury is so accurately controlled. Permanent loss of pigment, unlike with that of dermabrasion or chemical peeling, is also very unusual.

The Erbium: YAG laser is a very recent addition to surgeon's armament. It has a greater affinity to water than the CO₂ laser, but removes very much thinner layers of skin. The healing is faster, and redness usually lasts 2-3 weeks. However, it does not remove deep lines as well as the CO₂ laser, and produces less tightening of the skin. This laser seems to be more suitable for patients with finer wrinkles, and those who cannot afford the longer recovery period of the CO₂ laser.

Laser technology is expanding very fast and the latest and best addition to skin re-surfacing lasers is the **DERMA K** laser. It consists of two lasers working simultaneously, the CO₂ and the Erbium. The reason for this laser is to combine the positive effects of each laser and at the same time eliminating the negative ones.

The Erbium laser shaves skin layers one by one, without heating the skin, and can penetrate to much deeper levels, necessary to remove wrinkles, because the CO₂ laser mildly heats up the skin and eliminates bleeding. The Erbium laser on its own cannot penetrate deep into the skin because bleeding prevents it doing so. The CO₂ laser heats up the skin only during part of the Erbium pulse cycle and therefore it stops bleeding without causing any deeper damage.

There is no doubt that the **DERMA K** produces superior results to either the Erbium or the CO2 lasers. The healing time is considerably reduced, wrinkle elimination is better and, what is more important, from the patient's point of view, there is very little redness, even in sensitive skins. Following **DERMA K** treatment skin redness recovers within 6 weeks in most cases, which is a considerable improvement on the CO2 laser.

In some patients it may be necessary to "prepare" the skin for laser resurfacing some weeks ahead with Retin A, fruit acids and bleaching creams. This preparation makes their skin heal much faster, without problems with pigment formation during the recovery period. Many surgeons will also prescribe anti-viral drugs and antibiotics to reduce the chance of infection during the healing period.

After laser resurfacing it is important that the new skin forms as quickly as possible. On average this healing process will take between 5-10 days. Infection, or inappropriate wound care may prolong this process, and it is essential that the patient follows postoperative instructions to the letter, and seeks advice in case of difficulties.

All surgeons have different ways to speed up healing and may chose to use dressings, or just cover the wound with antibiotic cream or Vaseline. The evidence is that using dressings speeds up healing, and makes the wound more comfortable without excessive crusting.

When new skin is formed, it is important to protect it with sun block and use a lot of moisturiser to prevent it from drying up. As soon as it may be tolerated, bleaching cream, such as hydroquinone is added to the skin care regime to make sure that excessive pigment is not formed. This is particularly important in dark skins. Later on, mild peeling agents, such as Retin A and/or fruit acids may be added. During the period of redness (erythema), it is essential to camouflage the treated areas with adequate make-up, which will cover up this unsightly , but temporary reminder of laser resurfacing. On your first post-operative visit you will be shown how to apply a new camouflage make-up which is made from crushed minerals and pigments, and which looks very natural, without being irritating to the skin. Our Aestheticians are very skilled, and are trained to make you look great, and ready to face the world only 7-10 days after your laser treatment.

The skin will continue to "firm up" for 6 months after surgery and the final result will not be apparent until then. Only then is it possible to touch up any lines which may not have altogether disappeared. This however, is rarely necessary.

Results from laser resurfacing are excellent, and appear to be lasting for many years. When wrinkles do re-appear eventually, it is possible to repeat the whole process. In some cases where wrinkles have been caused by excessive use of muscles, such as frowning and laughing, we recommend the use of Botulinum injections to reduce muscle movement during the healing period for up to 1-2 years. This has been shown to improve the final result and delay the return of wrinkles.

This Practice owns a CO2, two Erbium and a Derma K laser, and the surgeon will discuss which of these is the most appropriate to your needs. The nursing staff in this Practice are very experienced and knowledgeable about lasers, and will be able to discuss their pros and cons with you, as well as pre and post-operative care. Many patients have fears about prolonged skin redness following laser re-surfacing. With new laser technology these fears are no longer necessary.