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SKIN RESURFACING USING FRACTIONAL CARBON DIOXIDE LASER

Treatments:

- 1) Acne removal, Scar removal, acne scar removal
- 2) Smooth burnt scars and surgery scars
- 3) Skin renewing, skin resurfacing
- 4) Wrinkle removal, skin rejuvenation
- 5) Skin tightening
- 6) Remove pigment, age spot, sun spot, freckle, chloasma
- 7) Sun damage recovery
- 9) Improving texture tone and pore size and treat telangiectasias

What is a laser?

A laser machine is one that concentrates the intensity of a light beam and emits it with a high intensity. The colour of the light, intensity and the size of the beam are unique to each different type of laser and can be used for various purposes.

1. How does this type of laser work?

When used to remove layers of the skin, the procedure is termed 'resurfacing'. The laser vaporizes the surface of the skin revealing the next layer, subsequently layers can be sequentially removed with precision and accuracy that cannot be achieved by other methods like dermabrasion and chemical skin peeling. Removing the skin surface in this way has 2 effects. Firstly the old sun-damaged wrinkled leathery skin is removed and new skin grows in its place. The new skin grows from hair follicles and glands, the cells which are in the deeper layers. The new skin is therefore younger, healthier and less blemished. Secondly, injuring the skin in this way, stimulates the growth factors responsible for the production of collagen in the upper dermis thereby smoothing and removing wrinkles.

2. Skin conditions that benefit:

- a. Wrinkles: vertical lines above the upper lip, wrinkles under the eyes and generally most small lines that are visible when the face is expressionless respond best to the laser treatment. 'Smile' lines and 'crows feet' are exaggerations of the normal lines of expression and cannot be removed, indeed, they should not be removed completely as the face will appear mask-like. They can be softened by laser treatment. Frown lines between the eyebrows are best treated with dysport.
- b. Sagging skin: This is a result of the normal ageing process and represents the effect of gravity on the skin and subcutaneous tissues that have lost elasticity. The only solution for this problem is to face a face lift with a Plastic surgeon. The procedure can be combined with laser treatment for a better overall result. This

can be discussed during initial consultation. Patients seeking plastic surgery should seek the help of qualified surgeons.

- c. Acne scarring: previously treated with dermabrasion, the laser does it with greater precision and accuracy. Depending upon the severity of the scarring, only 50-75% improvement can be expected from any one of the treatment. Most patients will need 2 or more sessions.
- d. Oil gland overgrowth (sebaceous hyperplasia)- this manifests as thickened rubbery skin with open pores. The laser removes the overgrown tissue allowing normal, softer skin to regrow.
- e. Other skin conditions: warty spots, age spots and other benign blemishes can be removed with resurfacing lasers, although they are better treated with other types of lasers
- f. Scars/ keloid: can be improved using the laser.

3. What does the treatment involve?

General or local anesthetics. The CO2 laser is a deep rejuvenating laser. Laser skin resurfacing involves firstly numbing the skin to be treated with general or local anaesthetics and then passing the laser beam over the skin. A controlled depth of skin is vaporized and the desiccated skin layer can be wiped away. This procedure is repeated until wrinkles are smoother. Very deep wrinkles and scars may still be visible although they will be significantly improved. Over the next 6 months, new collagen and elastic fibres develop to improve the skin further. Following treatment, the raw surface of the skin, might ooze serum for about 24hrs. Swelling is often quite marked esp near the eyes. The first 24hrs is moderately painful, requiring the use of pain pills. Wash with cetaphil bar soap or Dove soap. After 5-8 days, this is the actual healing time and is proportional to the depth of the laser treatment i.e people with deep wrinkles or marked acne scarring can expect longer healing times than those with a less severe initial skin problem. This healing phase is uncomfortable, but not painful. One can use Aquaphor oint or cicabio arnica to moisturize.

Once the scabs are gone, the new skin beneath is revealed. To begin with, it is soft, red and often a little dry. It thickens up to normal skin consistency over 4-6 weeks, although the gradual reduction of redness back to normal colour may take up to three months or more in few individuals. Makeup can be applied as soon as the scabs are off. Moisturisers and sunscreen are a must (cetaphil, eucerin, bioderma, physiogel AI).

Realistically, patients undergoing laser skin resurfacing need to hide for 1-2 weeks depending upon the depth of the skin removed. The appearance of the face for the week after treatment is similar to a moderate sun burn or an extensive graze. This is not the type of treatment that can be performed on someone anticipating returning to work within a day or two. Like other operations and surgical procedures, rest and recovery time is essential.

4. What can go wrong?

Complications can occur and patients undergoing this treatment must be fully aware of these so they can be reported to the treating doctor at the first sign of occurrence. During the first week, includes: infection (any sign of infection must be reported immediately to the doctor) so that antibiotics can be prescribed. Infections are nonetheless rare. Cold sores can be re-activated and can spread all over the face,

casing scars and must be treated accordingly. Antivirals can be used 1 day before and 5 days after the procedure to prevent this complication.
Late problems include pigmentation changes.

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- The patient should not take any medications containing aspirin (acetyl salicylic acid), high doses of vitamin E, consuming excessive alcohol and smoking at least 2 weeks before and after the treatment .
- The dermatologist will decide whether preliminary examinations are necessary, such as blood tests, an electrocardiogram, or x-rays of the lungs. If this is the case, these tests should be performed 2 weeks before the surgery.
- It is best not to wear any makeup when the client comes in for the operation.
- Wear loose clothing that doesn't need to be pulled over head; the client may also want to bring a scarf to cover the bandages on the way home.
- Do not eat or drink anything for 2 hours before your operation
- Local anesthetic will be injected subcutaneously (under the skin) or applied 1 hr before the procedure.
- You will experience a burning sensation on the skin that will last between 30 minutes and up to 3-4 hours following your treatment on the first day.
- If you have discomfort following the treatment, take pain pills.
- You may want to take a few days off of work. Treatment to the facial area will result in an appearance similar to a darker tan/sunburn for the first day. A fine scab will be formed by the skin do not be concerned, this promotes the healing process.
- After 1-2 days the scar /necrotic skin will disappear and the skin will have a tanned look. At this point, makeup may be applied. Redness may persist for up to 3 days. On the 4th day or so your face will get darker and then near the 5th to 6th day peeling will occur. More intense treatments can take up to 7 days for recovery.
- Wash using a mild soap like Cetaphil.
- Wash the treated areas everyday and apply Aquaphor Ointment or Cicabio to the treated sites and lips 4 times a day, or more frequently if tightness is noticed. Avoid Hot water.
- Eye Area: Treatment to the upper Eye lids may results in swelling and create a slight squint. Redness may persist up to 3 days. Clean your eyes with cool water and dab or pat very lightly with a soft towel. Avoid Hot water. Lubricating the eye with drops (i.e. artificial tears) will help to decrease the dryness of your eyes.
- If the skin around the mouth is tight, minimize Facial Expressions, remember to lubricate with Aquaphor Ointment, as needed and use a straw to drink.