

## LASER TREATMENTS - REPORT

We, at Dubai Cosmetic Surgery, offer a versatile array of laser treatments, using the latest, most sophisticated and refined of procedures. All of these treatments have been designed to cater to every individual's unique needs. Below are listed some of the treatments that we offer. We have also included details of each procedure to help you make a more informed decision. It is also necessary that before undergoing any of the following procedures, you consult with one of our physicians, who will then recommend the best option to cater to your needs.

### **Treatments Offered:**

- A) Permanent Hair Removal
  - 1) Laser - Light Sheer
  - 2) IPL
- B) Leg Veins (spider and varicose)
- C) Facial Veins ( Telangectasias)
- D) Tattoo Removal
- E) Poikiloderma
- F) Sun Damage Spots ( SolarLentigines )
- G) Hemangioma
- H) Port Wine Stain
- I) Rosacea
- J) Nevus of Otta
- K) Becker Nevus
- L) Hyperpigmentation
- M) Seborrheic Keratosis
- N) Fractional Co2 Treatment

## A) Permanent Hair Removal:

### What is laser hair removal?

Removal of a hair from virtually any part of the body with the modern technology of lasers is the most advanced and efficient way of removing unwanted hair. Laser can remove unwanted hair quickly, with minimum pain, and in some cases, permanently. So far, most of the common methods of removal of unwanted hair have been; razor, waxing creams and electrolysis. The drawbacks of these methods have been quick re-growth of the hair, frequent need for treatment, and sometimes pain. The laser treatments surpass all of these methods. Providing not only a much reduced growth rate, but also the naturally smooth skin texture that one requires and meanwhile retaining the original skin tone.

### What types of laser hair removal are there?

There are two basic approaches towards such a laser treatment, both of which are listed as the following.

- **Laser Treatment.**

The laser hair removal system works using the principle of selective photothermolysis, in which a carefully timed pulse of laser energy passes through the skin and is absorbed and converted to heat energy at the hair follicle. Laser Hair Removal works best in lighter skinned darker haired patients. Because the target chromophore in hair follicles is melanin pigment, less laser energy is absorbed by the skin and more by the hair follicle. Tanned skin also "robs" laser energy as it passes through the skin to the hair follicle. The Diode lasers are less dependent on skin color than the ruby and alexandrite lasers. Because the pigment in the hair is the target for the laser energy, gray or white hair (which lacks pigment) cannot be effectively treated with any laser or light-based device.

Repeated laser treatments appear to induce a permanent reduction in the amount of visible hair: Although current studies have shown a "permanent" reduction in hair growth, some hair re-growth may occur over time, although this is usually much slower and much finer than before treatment. Imagine a garden overgrown with weeds-after the first few weeding sessions, only occasional "touch-ups" are needed. True "permanent" "total" hair removal may be possible with repeated treatments over time.

- **IPL (Intense Pulsed Light).**

Intense Pulsed Light is also referred to as Photoderm or Photofacial. It is basically a computer-based machine which uses bright light similar to a camera's flashbulb. The light works much like a laser, but instead of having just one wavelength of light, Photoderm produces a spectrum of light. It is a method of hair removal from the body most commonly employed by medical practitioners and estheticians. It involves the use of a specially constructed xenon flash lamp and focusing optics. The process has gained immense popularity due to its cheaper and faster procedure as compared to the alternative laser hair removal procedure. Although this is a matter of intense debate, the results of the two are generally considered to be roughly equivalent.

### **How does the laser work?**

The target for the laser light is the pigment melanin which absorbs the energy in a process called "photothermolysis". The energy absorbed by the hair shaft will be transferred to the surrounding follicles creating follicular damage and retard or prevent future hair production by the hair follicles, the number of hair that are permanently removed as a result of one treatment can vary, the difficulty in eradication of unwanted or excess hair lies in the fact that the follicle has tremendous regenerative capabilities and that this recuperative power is highly variable from individual to individual and from one anatomic site to another.

In most instances, multiple treatments are necessary in order to achieve permanent hair reduction.

In order to understand the process, it is important to understand the biology of hair growth itself. hair growth cycles are divided in 3 phases; anagen, telogen and catagen. The Anagen Follicle or growing hair is the major target for laser energy and represents the most vulnerable phase of the hair growth cycle. theTelogen and Catagen Follicle appear to be more resistant to the laser energy. Depending on the body site, various percentage of hair are in anagen, catagen and telogen phases. Since the anagen phase is the most vulnerable, a period of one to three months between treatments is the necessary to allow the resting or telogen phase to once again enter the anagen cycle and become more sensitive to the laser energy.

### **What areas are most amenable to laser hair removal?**

Laser can remove unwanted hair, both from the face and the body. The most common area treated in women are the facial hair. But the hair, both in men and women can be

removed from practicality, all the areas of the body, including underarms, legs back, shoulders and bikini areas.

### **Is laser hair removal costly?**

Considering the efficiency, timesaving and longer-lasting results laser hair removal is quite economical compared to other methods of treatment.

### **Is hair removal by laser permanent?**

There is some confusion about the permanency of hair removal with laser. If you expect that the laser will permanently remove the hair in one or two treatments, then that is not correct. It is more appropriate to state that laser hair removal is long-term reduction and one can expect permanent hair reduction in about 4 to 6 treatments. The results are variable in different patients some patients may get a very good response, even in few treatments while others may not have a great response, after many treatments. Having said all that, laser hair removal is by far the best method available for long, hair free intervals and sometimes even if one needs maintenance treatment, may be once in six months or a year, still the laser comes out ahead of all other methods of permanent hair removal.

### **Is laser hair removal painful?**

Compared to waxing and electrolysis, laser hair removal is much more comfortable. Some patients prefer the topical, numbing cream to avoid any discomfort. Mild redness and some burning sensation are normal after the treatment. Ice packs are very helpful for the first couple of hours.

### **Are there possible complications?**

Careful selection of laser parameters is important for a successful outcome. Possible complications in the laser hair removal are due to over treatment or due to excessive laser energy. If over treated there could be unusual pain, blistering of the skin or even a superficial or deep burn. There is a possibility of the loss of skin pigment, which may improve with time.

## **B) Leg veins (spider and varicose):**

### **How does the laser work?**

Laser energy is absorbed by the target chromophore in the organ or tissue. In case of spider veins or leg veins, the energy is absorbed by the red color in blood cells exactly oxyhemoglobin. The heat generated by absorption of laser energy, destroys not only the

cells but the vessel wall also. The veins treated in this fashion disintegrate slowly into a threadlike structure.

#### **How many sessions or required?**

Usually one to two sessions is sufficient. In some patients more sessions may be required.

#### **Is that treatment painful?**

The treatment is easily tolerable. If necessary a numbing cream can be applied.

#### **Are there any possible complications?**

Possible transitory complications include burning, blistering or hypo and hyper pigmentation. Sometimes skin ulcers could form and may prolong the healing period.

### **C) Facial Veins( Telangectasias):**

Facial Veins are fine, little red veins on the nose, chin or cheeks that appear both in men and women as a normal part of aging. These can also result from pregnancy, childbirth, birth-control pills, estrogen-replacement therapy, sun damage and even corticosteroids. These are not broken blood vessels, only permanently dilated and visible fine veins. Laser treatments for facial Telangectasias depend on the quantity, size and depth of veins. Most patients need between one (1) to four (4) sessions in 4-6 weeks apart. The appearance of the treated area immediately after laser session will vary from patient to patient and they may include redness, tenderness, crusting and blistering, all of which disappears in short time.

### **D) Tattoo Removal:**

#### **How does the laser work?**

The laser energy is absorbed by the pigment of the tattoo. When sufficient energy is applied, large pieces of the pigment in that tattoo burst into tiny particles like an explosion and then these particles are phagocytized by macrophages and eliminated by lymphatic drainage.

#### **Is tattoo removal, permanent?**

Once a tattoo is completely removed, the change is permanent.

**How many sessions or required?**

The numbers of sessions vary from one patient to other, and they depend upon the depth & density of the tattoo, the age of the tattoo and whether it was done by a professional or by an amateur. It may vary from one to two sessions or may require many sessions. Most of the patients however improve with three to five sessions.

**Is it painful?**

There is mild discomfort, like snapping of a rubber band and some burning. Most of the patient tolerates the procedure well and if necessary a numbing cream can be applied to ease the discomfort and pain.

**Are there any possible complications?**

Complications in this procedure are rare. The laser energy is absorbed by the tattoo without harming the skin. If over treated, there could be some damage to the skin, not come from the laser itself, but from the particles of the pigment which is heated up and explodes through the skin.

**E) Poikiloderma:**

It is a mottled pigmentation on the neck more common in women, mostly considered to be a reaction pattern of the skin and not a disease. It is a combination of atrophy, Telangectasias and changes in pigments (both hypopigmentation & Hyperpigmentation), more common in females than in males affecting middle-aged or elderly women but can be seen in other age groups. Occasionally, patients report mild burning and itching. The causes of Poikiloderma are unknown but many factors are implicated: "chronic exposure to UV light rays ", photosensitizing chemicals in perfumes or other cosmetic products, possibly hormonal changes related with menopause and low estrogen level genetic predisposition may be involved.

**F) Sun Damage Spots (Solar Lentigines):**

These are multiple dark-brown macules on the face, ears, forearms, hands, chins, upper back and chest and scalp in the bald male, due to chronic exposure to sunlight. Solar Lentigines are not the same as freckles (ephelides). These do not fade in the winter as freckles do, these may disappear spontaneously but in general these will remain for years. The laser targets the brown pigment - melanin and the number of sessions may vary from patient to patient.

### **G) Hemangioma:**

(Birthmark) is a vascular malformation which may involve capillaries, veins, arteries and lymphatics without endothelial proliferation and with or without spontaneous involution. Typically, the Hemangioma appears within 2 weeks after birth as a small red blemish bump which rapidly grows. Most hemangiomas when first diagnosed are superficial and can be treated by laser which selects the red (oxihemoglobin) and shrinks the vessels. Repeated treatments can almost remove these but complete removal of every trace (for deep one) should not be expected.

### **H) Port-Wine Stain (Nevus flammeus):**

A port-wine stain (PWS) is an irregular shape red or violaceous, vascular malformation that is present at birth and never disappears spontaneously (except for the salmon patch). In adulthood, PWS's usually becomes raised and the cause of significant and progressive cosmetic disfigurement. The laser targets the red pigments in the blood vessels and several sessions are advised and maintenance programs are needed as these can reappear.

### **I) ROSACEA (from Latin word: "like roses"):**

Rosacea is a chronic disorder of the facial pilosebaceous units, coupled with an increased reactivity of capillaries to heat, leading to flushing and ultimately to Telangectasias. Although, this disease was previously called acne Rosacea, it is unrelated but may coexist with acne, which may have preceded the onset of Rosacea. Rosacea is the cause of significant cosmetic disfigurement. 2 - 4 sessions are necessary to achieve good results and for some of the patients maintenance is required.

### **J) NEVUS of OTTA:**

This pigmentary disorder is very common in Asian population and is said to occur in 1% of outpatient visit in Japan. It has been reported in East Indians, in blacks and rarely in Caucasians. This pigmentation which can be quite subtle or markedly disfiguring consists of mottled, dusky mixture of blue and brown Hyperpigmentation of the skin. It may be congenital but is not hereditary. More often it appears in early childhood or during puberty and remains for life. Treatment with laser is an effective new mode for this disfiguration disorder.

### K) **Becker Nevus:**

It is a pigmented hamartoma that is a developmental anomaly comprised of changes in pigmentation, hair growth and most important a slightly elevated smooth verrucous surface. It occurs mostly in males in all races. It appears NOT in birth but usually before 15 years of age and sometimes after age 15. It is light brown in color with sharply demarcated borders. Common locations are the shoulders and the back with increased hair growth in the pigmented area. The lesions extend for a year or two and then remain stable, only rarely fading. Coarse hair may develop.

### L) **Hyperpigmentation:**

Synonymous to Chloasma, it is an acquired light or dark hyperpigmentation that occurs in the exposed areas, most often on the face and results from exposure to sunlight; may be associated with pregnancy, with ingestion of contraceptive hormones, or possibly with certain medication. The pigmentation usually evolves quite rapidly over weeks, particularly after exposure to sunlight. Melasma is more apparent or more frequent in persons with brown or black constitutive skin color (persons from Asia, Middle East, India and South America). May disappears spontaneously over a period of months after delivery or after cessation of contraceptive hormones.

Following the IPL treatment, area of pigmentation will darken and rise to the surface of the skin before being exfoliated naturally within 1 - 2 weeks. This is a positive indication of a successful treatment and no cause for concern.

### M) **KERATOSIS (Solar and Seborrheic):**

- **Solar Keratosis:**

This appears on the scalp, face and torso of the hands most commonly in Caucasians and Asians, usually in people older than 40 years, but it may also occur in 30 year olds in sunny climates and in susceptible persons. The lesions are reddish, ill-defined macules or papules covered with a yellowish-brown scale with a sandpaper texture.

Solar keratosis may disappear spontaneously but in general they remain for years and sometimes they can develop in squamous cell carcinoma (annually in each 1000 solar keratosis).

- **Seborrheic Keratosis:**

It is the most common of the benign epithelial tumors. These lesions which are hereditary do not appear until age 30 and continue to occur over life time. They are isolated or generalized lesion on the face, trunk and upper extremities. The lesion is round or oval in the form of a plaque with brown, black or skin color with warty and "greasy" surface. Larger pigmented lesions are easily mistaken for basal cell carcinoma or malignant melanoma therefore, a histopathologic examination will rule them out.

## N) Fractional Co2 Treatment:

### **SmartXide Dot: A Revolution in Facial Resurfacing**

“Gold standard” in skin resurfacing technology now is the new SmartXide Dot technology. It was initially reported in 1991. The traditional CO2 Laser resurfacing removes layers of the whole skin surface. Thus causing delayed recovery and side effects.

The Dot technology differs by leaving dots of intact skin in between the treated areas. As a result the recovery is quick but the results are the same as the traditional CO2.

Fractional Co2 Laser can be used for Deep Acne Scar Treatment, Skin Tightening Treatment, Sun Damage Skin and Pigmentation Treatment.

Fractional CO2 Laser has been successfully used for Stretch Marks Treatment, wrinkles & Fine lines and for Ageing Skin. Dermal lesions, large pores and Acne scarring are very effectively treated as well.

Another remarkable feature of Fractional CO2 laser is the ability to treat Vascular Lesions and Post Surgery Scar. It has also been used as an adjunct to Blepharoplasty. There used to be a major concern about combining CO2 Laser with Blepharoplasty, however with this advanced technology the two procedures are being combined to get far better results for the patients.

Last but not the least is the tightening of Loose Skin. With the production and remodeling of new Collagen at the deeper layers of Skin, the skin becomes tighter and youthful.

Fractional CO2 Laser is a truly advanced concept in Laser treatment of the skin. The previous gold standard the CO2 laser had some serious side effects like pigmentation and prolonged recovery.

The fractional CO2 laser provides all the advantages of CO2 laser without the side effects. This advantage is due to the fact that the fractional CO2 laser treats a fraction of the skin at a time, leaving behind areas of skin not touched by the laser beam. This untreated skin quickly covers the treated skin with the new skin. This laser is very effective in treating wrinkles on the face and superficial pigmentation. The treatment is done in the clinic with minimal pain under the effect of topical anesthesia. More than one session is sometimes required. The recovery is quick and treated skin gets covered in a few days compared to the conventional CO2 laser which required recovery of more than a week and then 12 to 14 weeks for the pigmentation to subside.