**Facial Resurfacing with CO2 laser**

This is an informed consent document to help inform you about carbon dioxide (CO2) laser treatment procedures, risks, and alternative treatments. It is important that you read this information carefully and completely. Please initial each page at the bottom, indicating you have read the page and sign the consent for the procedure.

**What is laser skin resurfacing?** The carbon dioxide laser has been used for many years for treating the skin. An intense beam of light is emitted that heats and vaporizes skin tissue instantly. Recently developed carbon dioxide can remove the layers of skin, vaporizing the ridges of scars and wrinkles and smoothing out the surface of the skin. In addition, the skin tightens and collagen remodelling occurs, with layers of new collagen replacing sun-damaged or scarred collagen.

**Alternative treatment:** In some cases such as scar treatment or rejuvenation, alternative treatments to laser resurfacing with CO2 may be applicable and make sure that these are discussed with Dr. Firas Al-Niaimi prior to proceeding with CO2 laser.

**Benefits:** Laser resurfacing may significantly reduce superficial pigmentation, sun damage, facial wrinkle lines, scars, and in particular acne scarring. The length of time these benefits will last is unknown and variable from person to person. In most cases patients will notice optimal results around 3-6 months and in some cases there is a slow and gradual continuous improvement beyond this timeframe.

**Contraindications:**  This is very individual and may be best assessed on a person to person basis so please make sure you inform Dr. Firas Al-Niaimi if you suffered from or currently suffering from any medical condition. You must provide a full list of all the medication you are taking including any over the counter products. If you are a female patient of childbearing age then your pregnancy/breastfeeding status must be disclosed too. Please note that no laser treatment will be performed if there is an active area of skin infection or inflammation.

**Risks and complications**: There are both risks and complications, both temporary and permanent, associated with all laser treatment procedures of the skin. Dr. Firas Al-Niaimi is a highly skilled and experienced laser dermatologist but this still does not mitigate the risk for potential complications. A careful risk/benefit analysis should be taken into account prior to you undergoing this treatment. Although the majority of patients do not experience these complications, make sure you understand the risks, potential complications, and consequences of laser skin treatment. The most common side-effects and complications are explained below.

**Erythema (redness of skin):** the laser-treated areas have a distinctive redness, which is much more vivid than untreated areas. This intense redness generally will last 3-10 days, depending on the level of energy and density used . This redness represents increased blood flow from healing and inflammation, and with new growth of the superficial tissue it fades gradually. In some cases prolonged redness lasting for months is possible though this gradually fades over time.

**Oedema (swelling):** this is common and varies from person to person. Most patients will swell mildly, but in some patients the swelling is more severe. Your skin may feel tight, full, flushed, or swollen following treatment partly from this swelling but also from the tightening effect of the procedure. You can use ice-packs and anti-histamine tablets to reduce the swelling.

**Hyperpigmentation (increased skin colour pigmentation):** this may occur in those with dark complexions and almost always is temporary but in rare cases can be long-lasting. It responds to the use of lightening creams and UV protective sunscreens. Hyperpigmentation may also occur in areas of permanent makeup. If you think you are at high risk of developing post-treatment hyperpigmentation (from previous procedures for example) then please highlight this to Dr. Firas Al-Niaimi as you may benefit from a pre-treatment regimen of a combination of creams to reduce this risk. In all cases it is absolutely essential you continue to use sunblock of a minimum SPF of 30 for at least 3 months.

**Hypopigmentation (decreased skin colour pigmentation):** this is uncommon and is often a risk in dark-skinned patients, although it can occur for unknown reasons even when the procedure has been performed properly. In addition, removing sun-damaged skin can return you to your lighter colour similar to areas on your body that have not had long-term sun exposure (i.e., underarms). This can sometimes give a relative hypopigmentation which gradually settles. Delayed hypopigmentation can occur months to years after the procedure and can be permanent although is likely with the current CO2 laser machines.

**Line of demarcation/patterning of skin**: There is the possibility of irregular colour variations within the skin including areas that are both lighter and darker (as described above). A line of demarcation between untreated skin and skin treated with lasers can occur. Laser treatment procedures may produce visible patterns within the skin that correspond to the scanner configuration used in the machine. The occurrence of this is not predictable.

**Scarring or Keloids:** scarring is not anticipated as a consequence of this procedure, but any procedure in which the surface of the skin is removed and heat generated can heal with scarring. This usually occurs because of some secondary factor that interferes with healing, such as infection, irritation, scratching, or poor wound care. It is therefore absolutely imperative that you adhere to the aftercare that Dr. Firas Al-Niaimi will provide you. It may also occur because of a patient’s condition that predisposes to scarring, keloids, or poor wound healing (i.e. diabetes). Scarring can be reversible in some cases but can also persist and be permanent. Susceptible people to hypertrophic scars or keloids are at an increased risk. Additional treatments may be needed to treat scarring if it occurs.

**Bleeding:** It is expected to have some minor oozing and pinpoint bleeding the first day after treatment which usually settles and is not a cause of alarm or concern. Patients taking blood thinning tablets may expected some more bleeding and bruising.

**Pain:** CO2 treatment can be painful but the skin will be fully anaesthetized with cream and/or injections and you should not feel pain during the treatment. Very infrequently, pain may occur after CO2 laser skin treatment for some time and an infection should then be ruled out . Please arrive at least an hour before your scheduled treatment for the anaesthetic cream to be applied.

**Allergic/irritant reactions:** In rare cases, allergic or irritant reactions to the products used for aftercare may occur. This will present with burning/stinging sensation and increased redness shortly after using the product. If you suspect this then please inform Dr. Firas Al-Niaimi. An increased sensitivity to wind and sun may occur but is usually temporary and clears as the skin gradually heals.

**Unpredictable results:** Despite the best intentions and great skill in using the laser =, one cannot guarantee a satisfactory outcome all the time. Much depends on the skin and laser interaction and the resultant recovery and wound healing of your skin. Whilst the majority of patients eventually notice an improvement, very occasionally some patients get disappointed and feel their results did not match their expectations. The longevity of any derived improvement depends partly on how you look after your skin and whether any unexpected skin conditions or injuries may occur which are unrelated to the treatment.

**Delayed healing:** In most cases CO2-related oozing and crusting would have ceased by day 7-10. The skin afterwards may still be sensitive and red and fragile and this will gradually improve over time. Very rarely the wound healing may be slow and some areas may persist to scab or form crusts and in the majority of cases this would be due to a localized infection. Please notify Dr Firas Al-Niaimi if this occurs.

It is important that you read the above information carefully and have all of your questions answered before signing the consent page. Please initial each page of this document and sign at the end where marked for signature. Consent with your signature indicates the following:

1) I have read and understood the information outlined above

2) I have discussed and asked Dr Firas Al-Niaimi all my questions I had

3) I am aware of the risks, benefits, and alternatives and I am satisfied with the explanation

4) I have received the pre-treatment and post-treatment information sheets

5) I am not pregnant and there is no possibility that I could be pregnant and I am not breastfeeding

6) I authorize Dr Firas Al-Niaimi to carry out my treatment

7) I acknowledge that no guarantee has been given by anyone as to the results that may be obtained

Name:

Signature of the patient and date:

Name and signature of the doctor: