



# **PROFILE™ CONTOUR™ 2.94-μM LASER MODULE: MICROLASERPEEL™ (RESURFACING) SAFE START PROTOCOL**

The following protocol is a safe start guide based upon the clinical observations of experienced physicians.

## **Introduction**

The successful results from laser resurfacing have been evident for a number of years. However, the extreme levels of carbon dioxide laser peels created unwanted and extended periods of recovery for many patients. Chemical peels, performed for over 3,000 years, have a broad selection of effect from light 'daily' peels to heavy changes. The MICROLASERPEEL introduces the light quick recovery side to laser resurfacing. MICROLASERPEEL patients are able, in almost all cases, to experience improvement in damaged skin with the aid of a topical anesthetic cream and a recovery period of one to five days without cumbersome dressings, downtime, and general anesthesia. The busy life style of many patients leads them to the decision of a series of light MICROLASERPEELS rather than a single significant but traumatic carbon dioxide peel for the improvement of their damaged skin on both face along with neck, chest, and hands. Nothing else in the current aesthetic armamentarium can offer the benefits of the MICROLASERPEEL for safety, controllability, speed, and convenience with near indifference to skin color.

The PROFILE Contour has a LAPG™ Telecentric computer guided scanning device that allows the user to provide a very uniform treatment at high speeds. The scanner is a significant advance, providing treatment consistency and reproducibility unachievable by hand placed laser treatments. The result is seen as a smooth and even treatment of the skin without unwanted laser footprint or complication.

## **Epidermal and Dermal Resurfacing**

The epidermis is a robust and resilient structure with an average thickness, on the face, of about 110 microns. It functions as a physical barrier to protect the deeper dermis, and retain the skin's hydration. It is often the source of fine lines and discolorations in aging skin. The MICROLASERPEEL, 10 to 50 microns in selected depth, will not fully penetrate the epidermal barrier of the skin. Therefore the safety, shortened recovery time, and ease of care with these procedures produce a product preferred by many patients and physicians. For most patients, the average depth of the epidermis is shed every 28 days. It is therefore easy to calculate the recovery time of the epidermis from a MICROLASERPEEL.

**IMPORTANT:** Treating with dirty lenses, high fluence or overlapping laser pulses may lead to undesirable outcomes, including depressions and transient hyperpigmentation, all due to overheating of tissue. Although the computer guided scanner and the flat top beam profile are designed to alleviate these issues, attention to technique and conservative treatment are recommended. This guide is not intended as a replacement for clinical training, preceptorship or supervised experience. Please follow the instructions in the Operator's Manual for the system you will be using.

## 1. PRE-TREATMENT CONSIDERATIONS

***CAUTION: Selection of patients must include evaluation of Fitzpatrick Skin Type (I-VI). The MICROLASERPEEL is a purely ablative procedure without the coagulation mode that may lead to long term or permanent hypo- or hyper-pigmentation issues. However, darker skin types may have transient pigmentary loss in the more aggressive MICROLASERPEELS (40-50 micron). The transitory loss is a natural healing phenomenon with a potential period of 3 to 30 days. If transitory loss occurs it should not be treated during the healing process with steroids, hydroquinone, or other topical/systemic that might affect healing or pigmentary processes.***

### Classification of Skin Types

#### Fitzpatrick Scale

The following table offers a broad guidance to identifying skin types based on hair, skin and eye color as well as sun reaction.

Type	Hair Color	Skin Color	Eye Color	Sun Reaction
I	Red	Light	Blue-green	Burn, never tan
II	Blonde	Light	Blue	Burn, may tan
III	Brown	Medium	Brown	Burn, then tan
IV	Brown-black	Moderate brown	Brown-black	Tan
V	Black	Dark brown	Dark	Tan
VI	Black	Black (African)	Dark	Tan

## 1.1. CLEAN SKIN

Use a mild cleanser to remove any dirt, makeup, or moisture from the treatment area. Follow with an alcohol wipe. Allow alcohol to evaporate before treatment. Use special care around the eyes.

## 1.2. ANESTHESIA

Use a topical preparation, as needed, to alleviate discomfort for sensitive patients or sensitive areas prior to treatment. Read the manufacturer's guidelines for the application and duration of the anesthetic. Remove before treatment with mild soap and water or an alcohol swab, then plain water. Dry the area thoroughly before treatment.

## 1.3. HANDPIECE CLEANING

Prior to each treatment, clean the scanner or handpiece optics with an alcohol swab. Check the lenses during long procedures and clean as necessary.

***CAUTION: Particulate debris on the optics of the scanner or handpiece may result in laser beam scattering and an incorrect setting for fluence. Concurrent use of a high volume particulate evacuator (smoke evacuator) is mandatory for both safety and convenience reasons.***

## 1.4. EYE PROTECTION

Always use eye protection for the patient, the operator, and anyone in the laser treatment room during the treatment.

## 1.5. TREATING AREAS OTHER THAN THE FACE:

### 1.5.1. Neck and Chest

The epidermis of the neck and chest is both thinner than that of the face and has fewer adnexal healing structures. Peels beyond 20 microns are not recommended as a single event. Retreatment may occur as early as 8 weeks. This procedure may not be ideal for patients with known healing deficiencies.

### 1.5.2. Hands and other Body Areas

The epidermis of the hands and general body surfaces is both thinner than that of the face and has fewer adnexal healing structures. Peels beyond 20 microns are not recommended as a single event. Retreatment may occur as early as 8 weeks. This procedure may not be ideal for patients with known healing deficiencies.

***CAUTION: Particulate debris on the optics of the scanner or handpiece may result in laser beam scattering and an incorrect setting for fluence. Concurrent use of a high volume particulate evacuator (smoke evacuator) is mandatory for both safety and convenience reasons.***

## 2. SETTING TREATMENT PARAMETERS

### 2.1. DELIVERY

#### 2.1.1. SCANNER

The LAPG Telecentric scanner is the common choice for MICROLASERPEEL. The scanner allows for complete and uniform application of the laser energy. Care should be taken to apply adjoining scans without gap or excessive overlap of the previously scanned area. The spot overlap within the scanned pattern may be adjusted from 10-50% (30% is default). The telecentric ('collimated') scanner will generate a uniform pattern from near contact up to approximately 6 inches from the skin surface.

Many physicians divide the total ablation evenly between two passes to avoid the presence of scanner patterns on the skin. (i.e., 40 micron ablation performed as two 20 micron passes) The scanner should always be held perpendicular to the skin surface for efficient and uniform ablation. Single scan rate and the repeat period of consecutive scans may be adjusted to the comfort of the user. This selection will not alter the ablative settings or outcomes of the procedure.

***CAUTION: The scanner should always be held perpendicular to the skin surface for efficient and uniform ablation. A test pattern from the scanner or handpiece should be fired on a safe nontissue target (tongue blade, etc) to assure pattern size, uniformity, and confocal presence with the visible indicating beam before the procedure begins.***

#### 2.1.2. HANDPIECE

The Erbium:YAG handpieces may be used for MICROLASERPEEL. The options are 2 mm, 4 mm, and 5 mm spot sizes. The 4 mm matches the spot size of the LAPG Telecentric scanner. The stacking of consecutive pulse should be monitored and avoided in most circumstances.

***CAUTION: The handpiece should always be held perpendicular to the skin surface for efficient and uniform ablation. The distance attachment should be attached to the handpiece and the distance to tissue should be maintained by continual contact of the probe on tissue during laser use.***

#### 2.1.3. FLUENCE

The FLUENCE required depends on the amount of tissue to be removed. The laser may be set by the MICROLASERPEEL defaults: Level One – 10 microns, Level Two- 20 microns, or Level Three – 30 microns. The laser may also be set manually from 10 – 50 micron ablation depth.

Patient response can vary. Generally, the more healthy the skin and the patient the less the redness from treatment and the faster the healing response. Fluence should be selected based on expected outcome, patient pain tolerance, and expected 'downtime' for healing after assessing the individual patient needs. The desired response is erythema and possible edema within a few minutes of laser application. The redness and healing (often similar in appearance to varying degrees of sunburn) will increase with the depth of the Peel and will vary by patient.

Excessive fluence or poor control of the laser may lead to epidermal/dermal injury.

### 3. TECHNIQUE

#### 3.1. PATIENT POSITION

It is often easiest to lay the patient horizontally (supine or dorsal recumbent) and stand directly behind the patient's head. Elevate the table so the patient's head is as high as the top of the laser console. Sitting upright during ablation of the face or other body area is not contraindicated.

#### 3.2. TEST AREA

To confirm that laser and accessories are performing normally, it is useful for the operator to test on a nonflammable inanimate object like a wooden tongue depressor.

Treating a test area at the beginning of a patient's first treatment can establish their response threshold and help them understand the audible and sensory components of the treatment.

***IMPORTANT: The scanner or handpiece should always be held perpendicular to the skin surface for efficient and uniform ablation. A test pattern from the scanner or handpiece should be fired on a safe nontissue target (tongue depressor, etc) to assure pattern size, uniformity, and coaxial presence with the visible indicating beam before the procedure begins***

#### 3.3. SCANNER/HANDPIECE POSITION

Position the patient so the SCANNER/HANDPIECE can be held perpendicular to the skin surface. If using a handpiece, assure that the contact probe of the handpiece stays in contact with tissue.

The distal end of the plume evacuator should be as close as possible to the ablative site. The tubing is nonflammable. Tubing not within one inch of the operative site will capture less than 50% of the plume and debris from the laser site.

#### 4. TREATMENT METHOD

Performing two passes of the treatment area rather than one will reduce the 'footprint' appearance on the patient. Divide the ablative depth evenly between two passes. (i.e., 40 micron ablation by performing two 20 micron passes) Match the "trailing edge" of the next scan to the "leading edge" of the previous scan. The computer-guided scanner will give a uniform treatment with selected beam placement within the scan.

Use a slower rep rate, smaller scanned area, or lower repeat rates as needed.

***CAUTION: Do not stack pulses or overlap consecutive scans. Repeated pulses in the same location may lead to subsequent epidermal or dermal injury.***

***CAUTION: Do not allow combustibles or flammables, including drapes, in the laser treatment area. Fire prevention/control methods should be in place.***

#### 5. TREATMENT GOALS

Patient response can vary. Generally, the more healthy the skin and/or the patient the less the redness from treatment and the faster the healing response. Fluence should be selected based on expected outcome, patient pain tolerance, and expected 'downtime' for healing after assessing the individual patient needs. The desired response is erythema and possible light edema within a few minutes of laser application. The redness and healing (often similar in appearance to varying degrees of sunburn) will increase with the depth of the Peel and will vary by patient.

#### 6. POST-TREATMENT CONSIDERATIONS

##### 6.1. OBSERVATIONS

Erythema, edema, and a sunburn sensation should be noticed in the treatment area for up to twelve hours after treatment. This is a purely ablative procedure. Swelling should be present only as a short-term response. Patients undergoing 40-50 micron ablation may choose to sleep sitting upright the first night after the procedure to avoid swelling of facial tissues. Often tissue will peel or flake as a result of the ablation. Peeling or flaking usually occurs after 24 -48 hours. The slough may be expedited with a nonirritating exfoliant.

## **6.2. INTERVENTION**

While not often used, cold compress can provide some comfort after treatment. Post treatment discomfort may be relieved by oral pain relievers or valium for patient comfort. It is important for the treated area to remain soft and pliable during healing through the use of topical occlusive applications (Aquaphor, Vaseline, etc) The site should not be allowed to dry.

## **6.3. INTERVAL**

Recommended time interval between treatments is a minimum of 8 - 10 weeks. Retreatment in an earlier period may create additional discomfort or sensation at time of treatment.

## **7. CONCURRENT PROCEDURES**

COMBINATIONS – Noninvasive light-based treatments like hair removal or collagen stimulation may occur prior to MICROLASERPEEL. All other procedures should not be performed concurrently.

## **8. CONCLUSIONS**

Patients choose MICROLASERPEEL over more aggressive laser methods and chemical peel because of its control and rapid healing times with little down time. Therefore it may be of advantage to perform several light peels over a period of time rather than one or two more aggressive applications. However, this will not replace a phenol peel or aggressive carbon dioxide resurfacing in the Type III wrinkle patient.

Most medical practices see this as the missing link between a series of microdermabrasions and the application of aggressive laser or chemical peels. When performed on Thursday or Friday many female patients can return to work or activities on the following Monday in make-up without visible signs of the procedure having been performed.



# **PROFILE™ CONTOUR™ 2.94-μm LASER MODULE: MICROLASERPEEL™ (RESURFACING) SAFE START PROTOCOL SUMMARY**

## **1. Pre-Treatment:**

- Clean area to be treated. All make-up removed.
- Anesthesia - Use a topical preparation as necessary. Remove before treatment.
- Clean hand piece and optics prior to each treatment
- **Eye Protection - Always use eye protection for the patient, the operator and anyone in the laser treatment room**
- Test fire for alignment and operation.
- Prepare adequate plume evacuation.
- Position patient either sitting upright or lying supine for facial treatment.

## **2. Treatment:**

- Use adequate plume evacuation.
- Divide ablative depth into two equal passes where possible (20+ microns total)
- TREAT- Set to DESIRED SCAN PATTERN AND SIZE. Treat with non-overlapping scans.
- POSITION HANDPIECE in full contact with treated area or hold scanner perpendicular to and within 6 inches of tissue.

## **3. Post-Treatment:**

- OBSERVATIONS - Erythema and edema for up to twelve hours after treatment.
- INTERVENTION - Cool compresses or ice packs can provide some comfort after treatment.
- INTERVAL - between PROFILE treatments is approximately 8-10 weeks.

## **4. Perform treatment after Concurrent Procedures**

***CAUTION: Selection of patients must include evaluation of Fitzpatrick Skin Type (I-VI). The MICROLASERPEEL is a purely ablative procedure without the coagulation mode that may lead to long term or permanent hypo- or hyper-pigmentation issues. However, darker skin types may have transient pigmentary loss in the more aggressive MICROLASERPEELS (40-50 micron). The transitory loss is a natural healing phenomenon with a potential period of 3 to 30 days. If transitory loss occurs it should not be treated during the healing process with steroids, hydroquinone, or other topical/systemic that might affect healing or pigmentary processes.***

***CAUTION: Particulate debris on the optics of the scanner or handpiece may result in laser beam scattering and an incorrect setting for fluence. Concurrent use of a high volume particulate evacuator (smoke evacuator) is mandatory for both safety and convenience reasons.***

***CAUTION: Particulate debris on the optics of the scanner or handpiece may result in laser beam scattering and an incorrect setting for fluence. Concurrent use of a high volume particulate evacuator (smoke evacuator) is mandatory for both safety and convenience reasons.***

***CAUTION: The scanner or handpiece should always be held perpendicular to the skin surface for efficient and uniform ablation. A test pattern from the scanner or handpiece should be fired on a safe non-tissue target (tongue depressor, etc) to assure pattern size, uniformity, and coaxial presence with the visible indicating beam before the procedure begins.***

***CAUTION: Do not stack pulses or overlap consecutive scans. Repeated pulses in the same location may lead to subsequent epidermal or dermal injury.***

***CAUTION: Do not allow combustibles or flammables, including drapes, in the laser treatment area. Fire prevention/control methods should be in place.***