



## PROFILE™ BBL™ PULSED LIGHT MODULE: HAIR REDUCTION

### Introduction

Hair revolves through three phases of growth: anagen, catagen and telogen. It is only during the growing phase, *anagen*, that hair reacts to intense pulsed light. The goal in hair removal is for light to penetrate to the depth of the hair follicle during the anagen phase to achieve long-term results.

### Hair Growth Phases

***anagen***: the phase of the hair cycle during which synthesis of hair takes place. This is the active growing phase in which the hair bulb is intact. The hair grows in both directions, upward and downward. Early anagen is when the bulb is closest to the surface of the skin allowing for the most efficacious treatment. The time span for this phase is measured in months/years.

***catagen***: brief intermediate phase between anagen and telogen. During this phase, the body absorbs the lower third of the follicle. The time span for this phase is measured in weeks.

***telogen***: this is the resting phase. The hair bulb is no longer present. It is now a club hair, which will fall out or be pushed out of the follicle by a new anagen growing hair. The time span for this phase is measured in weeks/months.

The theory of Selective Photothermolysis explains how wavelength, energy, pulse width and thermal relaxation time all play a part in the destruction of a target and the preservation of surrounding tissue. Because of the large surface area-to-volume ratio, melanin and microvessels rapidly lose absorbed energy (heat) into the surrounding tissue. Because of the larger volume-to-surface area ratio, larger structures such as hair follicles are less capable of losing the absorbed energy (heat) to surrounding tissue. The thermal relaxation time of hair is 40 -100 milliseconds (ms), and the thermal relaxation time of the epidermis is 3 -10 ms.

When intense light is applied to a large target, such as a hair follicle, the pulse width of the light must be *shorter* than the thermal relaxation time of the larger target and yet much *longer* than the thermal relaxation time of the epidermis.

One issue in selecting a wavelength range for hair reduction is the absorption of energy in the melanin of the epidermis with Fitzpatrick skin types IV-V and also the tanned Fitzpatrick II-III. The Profile BBL resolves the problem by two methods. The first is the ability to select a pulse width that uniquely targets structures the size of the hair follicle and bulge without stimulation of the melanocytes. The second is the ability to cool and protect the epidermis and dermis

with a controlled, adjustable, and reliable cooling system. These two features, tied to a full range of adjustable fluence, and a rapid repetition rate, allow treatment of most skin types.

## Surface Cooling

Contact surface cooling clamps the skin surface at a predetermined temperature so that treatments will be consistent regardless of the patient’s nominal skin temperature. The thermodynamic properties of skin are very similar for all patients and a reproducible thermal response can be achieved by setting surface cooling temperature, BBL fluence, and BBL pulse width. Adjusting these settings will allow you to adjust the treatment to different skin conditions with reproducible treatment temperatures. Since BBL cooling time is not set there is no selected depth of cooling, however by proper selection of cooling temperature the temperature gradient can be properly set to achieve a good outcome.

Although absorption of the BBL light in melanin may be desirable, some epidermal cooling is beneficial to protect the skin. The amount of cooling required will vary depending upon the patient’s skin type. Lighter skin types require less cooling, and darker skin types require more cooling. The BBL contact cooling plate with a layer of gel insures that the skin is adequately protected from overheating regardless of skin type.

## Patient Selection

Profile BBL therapy is contraindicated for those patients who:

- are hypersensitive to light;
- take medication that is known to increase sensitivity to sunlight, such as accutane and gold treatment therapy;
- have seizure disorders triggered by light;
- have suspicious pigmented lesions;
- have very recent sun exposure or tanning.

## Classification of Skin Types

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

Fitzpatrick Scale

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

## Consultation / Treatment

The consultation or initial visit allows an exchange of views between practitioner and patient in an attempt to reach a decision regarding treatment. The patient must understand the procedure, pre and post care instructions, and expectations before the procedure is performed.

## Patient Education (Expectations)

The Profile BBL is used to reduce or eliminate unwanted hair. Patients must understand that results vary with each individual.

Duration of hair growth cycles depends on the body location being treated. The BBL can only eliminate hair that is currently in an anagen growth cycle. Multiple treatments are necessary over a time span (6-8 week intervals) to remove hair from most areas. Final results may not be apparent for several months post treatment. Suggested treatments and treatment intervals are:

Body Part	Number of Treatments	Treatment Interval
Lip	3 - 4	6 – 8 weeks
Face	3 - 4	6 – 8 weeks
Bikini Line	4 - 5	6 – 8 weeks
Arms	6 -7	6 – 8 weeks
Under arm	4 - 5	6 – 8 weeks
Back	4 - 5	6 – 8 weeks
Legs	5 - 6	6 – 8 weeks

The BBL pulse can be described as a wave of heat with the sensation of a pin prick. A topical anesthetic may be applied if necessary. The BBL cooling device is effective in pain reduction during the treatment.

Erythema/follicular edema may be seen for 4 – 6 hours following the BBL treatment. The treated hairs are affected during treatment, but can take up to 7 – 14 days to exfoliate and may appear to be "growing" during this time.

## Patient History

A thorough history of previous treatment methods, current medications, allergies and pigmentary problems should be discussed. Exclusion criteria may include but not limited to: photosensitivity, seizure disorders triggered by light, keloid formation, immunosuppression, use of light sensitizing medication, and/or history of poor wound healing.

## Patient Documentation Forms

- Consent: the process of accepting and confirming treatment must be reviewed, understood and signed by the patient prior to treatment. This document must review the topics discussed during consultation and acknowledges that the patient understands the procedure and that all questions have been answered.
- Review post care instructions and confirm that the patient will adhere to such instructions throughout the course of their treatment. (Sample post care instructions are included with the Practice Support Kit CD.)
- Upon patient's assessment, the case provider must determine the need for medications or creams. These can be given before the procedure and used throughout the treatment.
- Post-treatment appointments are scheduled for: treatment assessment, patient evaluation and routine therapy.

## Photographs

Before and after photographs should be taken throughout the course of the treatment to monitor patient response to therapy. Photographs should be taken prior to treatment and during follow-up visits.

## Pre Treatment Procedure

- For better results, patients are to avoid sun exposure, tanning beds and tanning creams for 2-3 weeks prior to treatment and throughout the course of their BBL treatment. Sunless tanning lotions must also be avoided for 2-3 weeks prior to treatment. However, if sun exposure is not avoidable a reduced fluence may be used and treatment sessions increased.
- Instruct the patient that recent sun exposure may result in cancellation of the treatment.
- Instruct the patient to shave the treatment areas 24 hours prior to treatment. This is to remove the overlying hair from the treatment site. Thick overlying hair (if not shaved) will absorb the BBL energy and superficial thermal injury can occur as well as reducing the amount of energy absorbed by the hair follicle.

## Post Testing Evaluation

*Treatment energies for each patient will vary according to patient skin type, location and color of hair. Test spots using a variety of energies are recommended. These will ensure that the energy delivered to the patient is within a safe parameter range.*

- Evaluation of the tested area(s) usually occurs 5 to 10 minutes post treatment.

- Verify that any hypo/hyperpigmentation has been transient (to date). If the patient is concerned about the pigmentary changes, further treatments may be delayed. Once the area returns to normal skin tone, treatments may be resumed.
- If the treated area appears hypopigmented (blanched or white) this is an indication that the energy density was too high and should be decreased accordingly.
- Further testing may be indicated depending on the results seen from the first tested area(s).

## Determination of Clinical Endpoint

***Warning: Treating with excess energy levels can result in adverse effects such as abnormal pigmentation and scarring.***

- Smell of success – hair has a unique and very noticeable odor when it is heated during the light pulse.
- Discomfort – thermal damage to hair follicles will be noticed by the patient during the BBL pulse as a pin prick sensation.
- A slight erythema should be noted in the skin around the hair follicles. Increased erythema during the treatment can indicate the energy is too high or the patient has had recent sun exposure.
- If the treatment area has even the slightest tan, the erythema response is greater and can lead to a purpuric response (blue-gray discoloration). If blistering occurs, treatment should be stopped immediately. Treatment can resume when the tan has faded.

## Treatment Procedures

- The highest energy density determined through test spots should be utilized. An increase in fluence should be tolerated after 2-3 consecutive treatments.
- A white or yellow washable marker can be used to outline the area to be treated. **Caution!** The use of blue, black or brown markers may absorb the BBL energy and result in epidermal injury.
- The cooling system is recommended during treatment. The system allows the continuous cooling on the treatment area to ease the pain sensation from the BBL pulse. A coating of gel, KY, surgilube or water should be used in conjunction with the system as a conduit for the BBL energy to fill irregularities in the skin simulating full contact.

- A decrease in fluence may be necessary in sensitive areas such as the upper lip, shin, ankle area and bikini areas.
- Topical anesthetics such as EMLA may be applied prior to treatment.
- Double pulsing at the same spot is not recommended and can increase the chances of post treatment complications.
- Following the treatment, the cooling system or an ice pack can be applied to the treated area to ease the sensation from the BBL pulses.
- Post treatment cooling is highly recommended for darker skin types.
- Treatments are scheduled at 6 to 8 week intervals for most body areas or when hair is actively regrowing. It is not recommended to re-treat any sooner than 6 weeks.

### **Sun Protection**

- A broad spectrum (UVA/UVB) sun block with an SPF of 30 must be applied 15 minutes prior to casual sun exposure.
- Prolonged sun exposure requires repeated applications of sun block every 2 hours (e.g. yard work, beach activities, etc.).
- Sun block must be reapplied after swimming.
- Clothing for sun protection must be tightly woven.

### **Adverse Effects**

Complications, though rare, can occur and should be discussed and understood. The patient must understand the importance of the post-care instructions, that failure to comply may increase the probability of complications.

- Scarring, though rare can occur following any photothermal procedure.
- Blistering during treatment may be an indication of sun exposure or too high a fluence for the skin type. Blistering can occur during the first three days following the procedure. Blistered areas should be treated with care, keeping the area moist with an ointment until area has healed.
- Pustules or pimples may develop in the first few days following treatment. The areas should be kept clean and treated with care.
- Histamine/Hives: some patients develop raised papules similar to hives. This irritation usually subsides in a few hours.

Sun exposure to the treatment area should be avoided at least 2-3 weeks prior to treatment. A broad spectrum (UVA/UVB) sunscreen SPF 30 or greater should be applied to the area(s) to be treated whenever exposed to the sun.

### **Post Treatment Skin Care**

Patients should receive post skin care instruction following each BBL treatment. Sample post care instruction sheets are can be found on the Practice Support Kit CD.

- Application of an ointment or aloe vera:
  - I. Ointment may be applied to the area to prevent drying and crusting. If crusting develops it should be allowed to fall off naturally (no picking). Ointment applied following the BBL treatment can have a soothing effect.
  - II. An antibiotic ointment should be utilized if there is any blistering or break in the skin.
  - III. The patient should be instructed to contact the office if there is an indication of infection (redness, tenderness or pus).
  - IV. No shaving of treated area for 1 to 3 days post treatment.
  - V. No waxing or plucking during the course of treatment.
- Bathing:
  - I. If treated area is irritated the area should not be rubbed with a face cloth or towel. The area should be patted dry.
- Makeup:
  - I. If the area blisters, extreme caution should be used when applying or removing makeup. The treated area is very delicate and should be treated with care. Rough removal of makeup can increase the incidence of post treatment complications.



## **PROFILE™ BBL MODULE: HAIR REDUCTION SAFE START PROTOCOL**

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

**IMPORTANT:** Treating with high fluence or overlapping pulses may lead to undesirable outcomes, including blisters, depressions and transient hyperpigmentation, all due to overheating of tissue. Although the cooling tip and the uniform energy 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**

#### **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. Remove before treatment with mild soap and water or an alcohol swab, then plain water. Dry the area thoroughly before treatment.

#### **1.3. SHAVING OR THE REMOVAL OF SURFACE HAIR**

Removal of surface hair prior to treatment assures a safe treatment without the risk of epidermal irritation or burn from the presence of dark surface hair. The site should present at treatment with only short stubble in order to clearly identify the treatment area. Shaving immediately before treatment is safe as long as the nicking of skin is avoided.

#### **1.4. HANDPIECE CLEANING**

Clean the cooling plate with an alcohol swab. Check the cooling plate during long procedures and clean as necessary.



## 1.5. EYE PROTECTION

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

## 1.6. TREATING AREAS WHERE ARTIFICIAL MAKE-UP, TATTOOS, or DARKENED MOLES ARE PRESENT:

### TATTOO or MAKE-UP

Areas tattooed with designs or artificial make-up should be avoided. Not only do they create an additional and unwanted target for deposition of heat, but targets with red or frosty white appearance commonly have iron or titanium in their composition. The red or white pigment may oxidize and turn black from intense light exposure. If one must treat those areas, a test spot with close monitoring for one to four days is recommended.

### DARKENED MOLES

Darkened moles often have unwanted dark hair present in their core. It is important to remember that the removal of that hair and the subsequent potential bleaching of the mole prevent monitoring of the mole, since cancerous lesion assessment is based on the ABCD method (Asymmetry, Borders, Color, and Diameter).

***CAUTION: Tattooed areas should not be treated. Tattoo ink may absorb energy resulting in a color change in tattoo ink or a risk of epidermal damage. Darkened moles should not be treated. Moles may absorb energy resulting in a color change creating a risk of epidermal damage and the inability to monitor the lesion under ABCD guidelines.***

## 2. SETTING TREATMENT PARAMETERS

### 2.1. COOLING

#### 2.1.1. COOLING TEMPERATURE

- 5° to 10°C is recommended for maximum patient comfort. Treating with higher COOLING temperatures will require treating with lower FLUENCE settings. The inverse also applies. A coating of colorless gel, KY, surgilube or water should be used in conjunction with the system for better heat removal, improved optical coupling, and lubrication for sliding the plate over skin. The gel will fill irregularities in the skin simulating full contact of the cooling crystal.

### 2.2. FLUENCE

The FLUENCE required depends on the starting surface temperature of the area being

treated. Reduce fluence by as much as 20% over bony areas such as shin.

Patient response can vary, so fluence should begin low and be increased gradually after assessing the individual patient response. The desired response is spontaneous erythema converting within a few minutes of BBL application to perifollicular edema (similar in appearance to razor burn or rash). The optimum fluence and pulse width may change for a patient during the series of treatments. Perifollicular edema should last approximately 4-6 hours after treatment. Be sure to properly evaluate the treatment parameters before each treatment based on previous successes, or complications, and the response of the patient to questions about the first 24 hours after the previous treatment. Those who respond with no irritation, blistering, or complication for the first 24 hours after treatment are within a safe, and possibly low, fluence range.

Excessive fluence, immediate retreatment, pulse stacking, or poor contact with skin can lead to epidermal injury or blisters.

Skin Type	Dark hair	Medium hair	Light hair	Pulse width	Smart Filter
I-II	5-10 J/cm <sup>2</sup>	7 - 15 J/cm <sup>2</sup>	10 –20 J/cm <sup>2</sup>	15-20 ms	590 nm
III - IV	5-10 J/cm <sup>2</sup>	7 - 15 J/cm <sup>2</sup>	10 –20 J/cm <sup>2</sup>	20-30 ms	640 nm
V	5-12 J/cm <sup>2</sup>	7 - 18 J/cm <sup>2</sup>	-	30-50 ms	695 nm
VI	NA	NA	NA	NA	NA

### 2.3. PULSE WIDTH

Set the starting pulse width between 15 ms and 50 ms. The desired pulse width is partially determined by the size of the hair shaft and follicle. As hair reduces in size during the treatment series it may be necessary to reduce the appropriate pulse width.

## 3. TECHNIQUE

### 3.1. PATIENT POSITION

Position is based on the area to be treated. Patient should be in a comfortable position. The treatment area should be presented to the BBL user at a convenient height and position.

In areas where hair-bearing skin is adjacent to mucous membrane (mouth or genital areas) care should be taken to avoid non-hair-bearing skin.

### 3.2. TEST AREA

Treating a test area before a patient’s first treatment can establish their response threshold and help establish safe starting parameters. The test area should be monitored for response for a period of five to ten minutes. Blistering or the immediate grey or white presentation of the skin is the immediate concern.

TEST AREA should reach the desired response of erythema and perifollicular edema within a few minutes. Increase fluence in small increments until the desired response is achieved.

**CAUTION: Use only enough fluence to achieve the desired endpoint of erythema.**

	% telogen	% anagen	Telogen duration	Anagen duration	Density Hair / cm <sup>2</sup>	Follicle depth
Scalp	13	<b>85</b>	3-4 mnths	2-6 yrs	350	3-5 mm
Eyebrow	90	<b>10</b>	3 mnths	4-8 wks		2-2.5 mm
Ear	85	<b>15</b>	3 mnths			
Cheeks	30-50	<b>50-70</b>		1 yr	880	2-4 mm
Beard-chin	20	<b>70</b>	10 wks	16 wks	500	2-4 mm
Upper lip	35	<b>65</b>	6 wks	6 wks	500	1-2.5 mm
Axillae	70	<b>30</b>	3 mnths	4 mnths	65	3.5-4.5 mm
Trunk	NA	<b>NA</b>			70	2-4.5 mm
Bikini	70	<b>30</b>	3 mnths	4 mnths	70	3.5-5 mm
Arm	80	<b>20</b>	18 wks	13 wks	80	2-4.5 mm
Leg	80	<b>20</b>	24 wks	16 wks	60	2.5-4 mm
Breast	70	<b>30</b>			65	3-4.5 mm

### Richards-Merhag Chart

**IMPORTANT: Keep fluence conservative for the first treatment session, and monitor the patient for any evidence of prolonged erythema, swelling, urticaria or blistering.**

**IMPORTANT: Make sure that the cooling plate is in good contact with skin by using a thin layer of colorless gel to provide good thermal contact with the skin.**

### 3.3. BBL HANDPIECE POSITION

Position the patient so the BBL can be held perpendicular to the skin surface. Move the patient if necessary so that the treatment area is easy to reach.

Position the BBL so the cooling plate is in full contact with the skin through the use of a layer of gel. For highly curved regions, position the cooling plate while pushing the skin upward with your other hand to insure proper cooling. Do not compress the skin with the cooling plate since this alter the blood flow to the follicles. BBL Masks can be used to expose only the distal end of the cooling plate for treating hard to reach or small areas.

The BBL cooling plate must remain in contact with skin long enough before and after the treatment to cool the surface of the skin and the region of the hair follicles and reduce the heat sensation. A coating of colorless gel, KY, surgilube or water should be used in conjunction with the system for better heat removal, improved optical coupling, filling voids in the skin surface, avoiding pressure contact on the skin, and lubrication for sliding the plate over skin.

### 3.4. TREATMENT METHOD

Match the “trailing edge” of the next BBL treatment area to the “leading edge” of the previous area. Use edge of the cooling plate for convenience in treating small areas or near the boundary of cosmetic regions.

Do not overlap or immediately stack BBL pulses.

***CAUTION: Do not stack pulses or overlap consecutive pulses. Repeated pulses in the same location may lead to a build up of subsurface heat and a subsequent blister or burn. Blistering is an indication of over treatment due to excessive temperatures, which can be caused by improper cooling plate placement, overlapping pulses, repeated pulses, improper cooling temperatures, or excessive fluence.***

## 4. TREATMENT GOALS

The immediate goal is light, uniform erythema converting to perifollicular edema (similar to razor burn or rash in appearance) a few minutes after treatment. The ideal fluence will often present the light smell of denatured proteins, rotten egg or sulphuric smell. Patients will typically report feeling tighter skin or the sensation of mild sunburn following treatment.

## 5. POST-TREATMENT CONSIDERATIONS

### 5.1. OBSERVATIONS

Erythema, perifollicular edema, and a mild sunburn sensation should be noticed in the treatment area for up to two hours after treatment. Patients should not feel any significant discomfort after treatment.

Hair may appear to grow for several days post treatment as the hair is extruded.

Hair should spontaneously fall out about day 4 -14.

Shaving of the area, but not plucking, is allowed between treatments as necessary.

## 5.2. INTERVENTION

While not often used, cold compress can provide some comfort after treatment. If blistering occurs, aggressive wound treatment should be administered, i.e. Vigilon, Second Skin, silastic sheeting or other intervention.

**REMINDER: When treating the bikini area, panty elastic at the leg should be avoided for several days after treatment. The irritation of the elastic over the treatment area can lead to rash or blistering.**

## 5.3. INTERVAL

Recommended time interval between treatments is 6 - 8 weeks. A fixed retreatment time may shorten the series period and increase efficacy. The number of treatments necessary may be roughly estimated from the Richards-Merhag chart by dividing the percentage of Anagen hair present in an area into 100% and adding one additional treatment. (example: Legs, 20% anagen divided into 100% equal five cycles plus one additional treatment to equal six total)

## 6. CONCURRENT PROCEDURES

COMBINATIONS – BBL Hair reduction treatments may be given in combination with other minimally invasive therapies. If a patient is to receive another treatment (light chemical peel, microdermabrasion, Botox, collagen injection) in conjunction with the BBL, it is advisable to perform the BBL treatment first. There may be increased sensitivity in the treated areas for an hour or two.

## 7. PSEUDO-FOLLICULITIS BARBAE

PFB can be successfully treated with the parameters used for hair removal. It should be remembered that treatment may produce permanent change preventing hair regrowth in the treatment area. This can have long term effect in areas where beard growth is desired.

## 8. CONCLUSIONS

Do not be overly aggressive. Begin conservatively and be patient. Results are determined by the physiology of the patient's skin. This is not a surgical process; hair reduction takes time. You should help your patient understand that the results are long term.

# PROFILE™ BBL™ PULSED LIGHT MODULE: HAIR REDUCTION SAFE START PROTOCOL SUMMARY

## 1. Pre-Treatment:

- Clean area to be treated
- Anesthesia - Use a topical preparation if necessary. Remove before treatment.
- Clean hand piece prior to each treatment
- **Eye Protection - Always use eye protection for the patient, the operator and anyone in the BBL treatment room**
- Hair length should be no more than stubble at the treatment site
- Apply a very thin layer of colorless gel if desired

## 2. Treatment:

- Set Cooling Temperature: 5°-10°C is recommended.
- Set Fluence for TEST AREA, according to touchscreen or previous experience
- Test fire at moderate fluence and treatment temperature at site
- Check Cooling Temperature before each area to be treated.
- Set pulse width.

Skin Type	Dark hair	Medium hair	Light hair	Pulse width	Smart Filter
I-II	5-10 J/cm <sup>2</sup>	7 - 15 J/cm <sup>2</sup>	10 –20 J/cm <sup>2</sup>	15-20 ms	590 nm
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V	5-12 J/cm <sup>2</sup>	7 - 18 J/cm <sup>2</sup>	-	30-50 ms	695 nm
VI	NA	NA	NA	NA	NA

- Treat with non-overlapping scans.
- POSITION COOLING PLATE in full contact with treated area.
- Use colorless gel, KY, surgilube or water for better heat removal, improved optical coupling, avoiding pressure contact, and lubrication for sliding the plate over skin.
- ALLOW COOLING before and after depressing BBL foot switch to cool the region around the follicles..
- Adjust Fluence - to achieve uniform erythema converting to perifollicular edema

## 3. Post-Treatment:

- OBSERVATIONS - Erythema and perifollicular edema for up to six hours after treatment.
- INTERVENTION - Cool compresses or ice packs can provide some comfort after treatment. If blistering occurs, aggressive wound treatment should be administered.
- INTERVAL - between PROFILE treatments is approximately 6 - 8 weeks.

#### 4. Perform treatment before Concurrent Procedures

**IMPORTANT:** The cooling plate must remain in contact with skin long enough to cool the surface of the skin before and after the treatment pulse. It may take several seconds for the deeper heat to propagate to the surface. Make sure that the cooling plate is in good contact with skin with a layer of gel.

#### **CAUTION**

*Tattooed areas should not be treated. Tattoo ink may absorb energy resulting in a color change in tattoo ink or a risk of epidermal damage.*

*The risk of epidermal injury such as blistering increases with decreased cooling. Use only enough fluence to achieve the desired endpoint of erythema. Check the cooling plate temperature prior to every treatment.*

*Overlapping pulses may lead to excessive subsurface temperature resulting in blisters or denatured collagen. Proper pulse spacing will avoid this*

*Do not stack pulses or overlap consecutive treatment pulses. Repeated pulses in the same location may lead to a build up of subsurface heat and a subsequent blister or burn.*