

The LuxG™: Advanced Treatment Settings for Facial Telangiectasia

Palomar's StarLux® LuxG pulsed-light handpiece effectively treats pigmented and vascular lesions of the face, chest, neck and other body areas. Using bimodal filtration, the LuxG produces two wavelength bands that are optimally absorbed by blood. Utilizing the following advanced treatment tips, experienced StarLux users have the ability to adjust pulsewidth and fluence settings for various sized facial lesions.

The StarLux Treatment Guide is a handy reference for Palomar system owners. Skilled users may use the high end of the Guide's suggested settings, with certain precautions:

Determine Fitzpatrick Skin Type

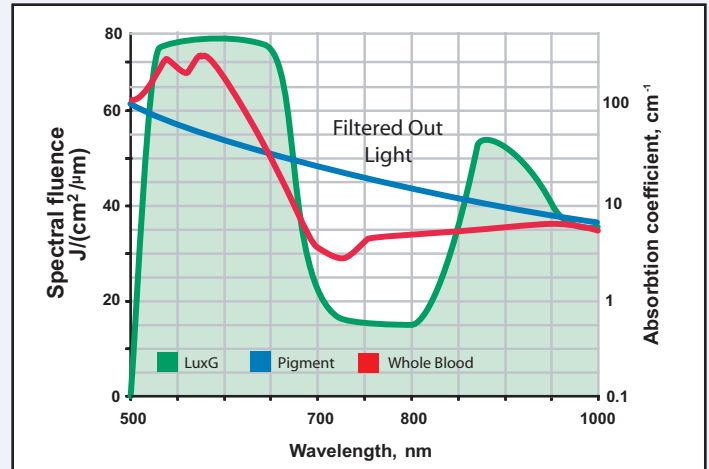
(see article in this edition).

Determine if a tan is present

(see article in the LuxLetter vol. I Summer 2007 edition).

Perform a test spot to gauge the effect and tissue response.

- Instructions on test spots appear in Appendix A of your Operator's Manual.



Continuously monitor results for signs of over-treatment.

- For vascular lesions, this may include graying of the skin.
- For pigmented lesions, this may include over-darkening of the lesions.
- A lingering robust erythematous response could signal over-treatment. If this occurs, consider applying a short course of high potency steroidal cream.

Consider using a LuxG Mask to minimize treating unwanted areas.

- See Appendix A of your Operator's Manual for Mask usage.



IN THIS EDITION:

- ▶ LuxG™: Advanced Treatment Settings
- ▶ Fitzpatrick Skin Typing and Genetics
- ▶ Post-treatment Guidelines for Pulsed Light and Lasers

All use of a Palomar system and equipment is based on the practitioner's knowledge and experience. Treatment guidelines do not replace common sense and good clinical judgment in performing treatments. The practitioner is responsible for correct diagnosis and treatment results.

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Advanced LuxG treatments for small, average-sized, and large facial blood vessels require unique settings for the StarLux 300 and StarLux 500. The following treatment tips are broken down per your respective system.

When treating smaller vessels (<0.3 mm in diameter), use shorter pulse durations:

Small vessel Tx (StarLux 300)	Small vessel Tx (StarLux 500)
<p>10 ms pulse at 30-36 J/cm².</p> <p>Start at 30 Joules and increase fluence based on skin reaction.</p>	<p>Skin Type I-III: 15 ms pulse at 36-44 J/cm².</p> <p>Skin Type IV: 20 ms pulse at 36-44 J/cm².</p> <p>Start at 36 Joules and increase fluence based on skin reaction.</p> <p>If vessels spasm (vessel blurring), consider trying the 10 ms pulse duration.</p>

At these settings, the vessel should close. If vessel darkening occurs, consider lengthening the pulse duration to up to 20 ms. Caution should be used when treating the periorbital area above 36 J/cm² as a few cases of purpura have been reported with higher energies.

When treating average vessels (0.3 – 1.0 mm):

Average-sized vessel Tx (StarLux 300)	Average-sized vessel Tx (StarLux 500)
<p>Skin Type I-III: 20 ms pulse at 36-48 J/cm².</p> <p>Skin Type IV: 20 ms pulse at 32-38 J/cm².</p> <p>Start at 36 and increase fluence based on skin reaction.</p> <p>Use caution when treating over 46 J/cm².</p>	<p>Skin Type I-III: 20 ms pulse at 36-56 J/cm².</p> <p>If vessels spasm, consider 15 ms at 32-38 J/cm².</p> <p>Skin Type IV: 20 ms pulse at 36-44 J/cm².</p> <p>Start at 36 Joules and increase fluence based on skin reaction.</p> <p>Use caution when treating over 46 J/cm².</p> <p>48-52 J/ cm² are for use only with resistant vessels in very sebaceous areas like the nose and alar region.</p>

Again, at these settings, the vessel should close. If only spasm occurs, the pulse duration may be too long; try shortening the pulse duration to 10 ms for the StarLux 300 and 15 ms for StarLux 500.

Large vessels (>1.0 mm) blue or purple in color may be treated effectively with higher energies and longer pulses:

Large Vessel Tx (StarLux 300)	Large Vessel Tx (StarLux 500)
<p>100 ms pulse at 50-60 J/cm².</p>	<p>100 ms pulse at 60-70 J/cm².</p>

If the larger vessel has decreased in diameter but hasn't completely closed, follow with a 20 ms pulse at maximum safe fluence. Always assess the area before performing a second pulse.

Cool all areas with the Cool Roller™ immediately after treatment. A mild sunburn type sensation is expected and may be accompanied by mild swelling and redness. Symptoms usually

resolve within 2–3 days. Some users also recommend the use of a high potency steroid cream applied immediately after treatment for the first day only. ■

Fitzpatrick Skin Typing and the Importance of Genetic History

In 1975, Thomas B. Fitzpatrick, MD, PhD of Harvard Medical School developed a classification system for skin typing. This system was based on a person’s complexion and response to sun. Today, this classification system is used to aid practitioners in the treatment of various conditions. Determining correct skin type is vital to achieving successful results with laser and light treatments.

While most people fit into one of the six Fitzpatrick skin types, remember that some patients will not fit a category easily. Use your knowledge and experience to determine treatment options. For your convenience to help identify skin types, we have included links to the [Fitzpatrick Skin Type Scale](#) and [Skin typing Worksheet](#) found under the Lux Club Clinical section of Palomar’s web site (<http://www.palomarmedical.com>). Copies are also available in Chapter 7 of your Operator’s Manual.

Skin types range from the very fair Type I to the very dark Type VI. Typically, the color of the eyes and hair, as well as how skin reacts to sun exposure, will give an idea of a person’s skin type. Another less visible component is the patient’s ancestry. Always inquire of your patient’s ethnicity to best determine skin typing. For example, someone of mixed heritage may mention that they are “Irish and English” leaving out the fact that they are a descendant of a Native American. A thorough determination of genetic background information is important prior to laser/light treatment because the skin may not “react” the way cursory Fitzpatrick Typing might have predicted. In most cases, ethnically diverse patients will require a more conservative approach. Again, refer to the referenced skin typing documents.

Table 1 includes a variety of sample skin types, not intended to be the sole representations of the respective skin types.

In addition to skin typing, it is important to evaluate the patient’s actual skin pigmentation prior to treatment.






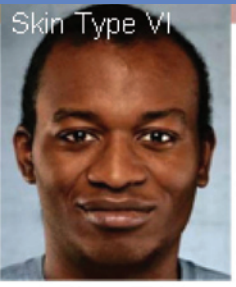
Fitzpatrick Skin Type		
 <p>Skin Type I</p>	 <p>Skin Type II</p>	 <p>Skin Type III</p>
<p>Fair skin, blonde hair, blue/green eyes never tans, always burns</p>	<p>Fair skin, sandy–light brown hair, green or brown eyes occasionally tans, usually burns</p>	<p>Medium skin, brown hair, brown eyes often tans, sometimes burn</p>
Source: Krebsliga, Switzerland		
 <p>Skin Type IV</p>	 <p>Skin Type V</p>	 <p>Skin Type VI</p>
<p>Olive skin, brown/black hair, brown/black eyes always tans, never burns</p>	<p>Dark skin, black hair, black eyes never burns</p>	<p>Black skin, black hair, black eyes never burns</p>

Table 1. Skin Type Examples

Sun damage, melasma, hormone-induced pigment, or even an underlying disease such as Addison’s disease all have a role in the determination of treatment settings and a treatment plan. Hormone changes after pregnancy can vary the amount of pigmentation so it is wise to use lower settings and wait longer following the test spots to assess effect. Of course, performing treatments on pregnant women is contraindicated, but is an important piece of information to obtain in a medical history. ■

Post-Treatment Guidelines

A complete treatment program must include proper post-treatment guidelines and home care in order to obtain the best results. Different protocols apply depending on the treatment performed. Below are post-treatment suggestions for Palomar's pulsed light handpieces, the Lux1540™ FractionalLaser handpiece, the LuxIR™/LuxDeepIR™ Fractional handpieces and the Lux1064™ laser treatments. These are suggestions only, which should be customized based on your experience, office policies and protocols.

Intense Pulsed-Light Post-Treatment General Guidelines (applicable to the LuxY™, LuxYs™, LuxG™™, LuxV™, LuxR™ and LuxRs™ Handpieces)

After treatment, apply cold compresses or cold packs to the treated area for 10–15 minutes every hour for the next few hours, as needed.

A mild sunburn-like sensation is expected. This usually lasts 2–24 hours but can persist up to 72 hours or more. Mild swelling and/or redness may accompany this, but it usually resolves in 2–3 days. Over-the-counter 1% Hydrocortisone cream or aloe vera gel may ease redness or inflammation.

Minor crusting or peeling of the skin is a common side effect. In rare cases, blistering may occur. An antibiotic ointment may be applied to the affected areas twice a day until healed.

Keep the area clean. Wash gently. Avoid aggressive scrubbing or the use of exfoliants, scrub brushes and loofa sponges until the sensitivity and color of the treated area has returned to normal.

Avoid direct sun exposure, including sun lamps and tanning beds, for 2–3 weeks after treatment. If exposed to the sun, protect the treated areas with a full spectrum sun block of 45 SPF or higher, used regularly between treatments and after the treatment course is completed.

Until redness has completely resolved, avoid:

- Applying cosmetics to the treated areas.
- Swimming, especially in pools with chemicals.
- Hot tubs and Jacuzzis.
- Activities that cause excessive perspiration.

Hair Removal Post-Treatment Guidelines (Pulsed-Light)

Hair may appear to grow or shed over the next 7–30 days. This is not new hair growth; rather, treated hairs are being expelled from the skin. Shaving is permitted. Care should be taken to prevent trauma to the treated area for the first 4–5 days following treatment.

NOTE: In clients with facial hirsutism who have been diagnosed with polycystic ovarian syndrome (PCOS) and presenting ovarian hyperandrogenism, there is a risk of activating dormant hair follicles in untreated areas close to the hirsute-treated areas. There are studies suggesting that icing or cooling the adjacent sites while performing the treatment can help minimize this phenomenon.

Pigmented Lesion Post-Treatment Guidelines (Pulsed-Light)

The treated lesion may initially look raised and/or darker with a reddened border. It will gradually turn darker over the next 24–48 hours and may even turn very dark brown or black. This is normal. The treated area may develop to a “peppery” appearance that will begin to flake off after a few days. A lesion on the body is usually cleared in 21–30 days and in about 7–10 days on the face. The lesion will continue to fade over the next 4–6 weeks.

Scabbing or crusting may occur, and should not be picked, scratched or removed. The area should be kept moist with either an antibiotic ointment or a petrolatum-based product like Aquaphor® (provided there are no sensitivities to its ingredients).

Post-Treatment Guidelines (cont.)

Vascular Lesion Post-Treatment Guidelines (Pulsed-Light)

Avoid hot baths, steam showers or aerobic exercise for 24–48 hours after treatment.

Avoid any flushing triggers (hot spicy foods, alcohol, etc.) for 24–48 hours. The vessels may undergo immediate graying or blanching, or may exhibit a slight purple or red coloring. The vessels will fully or partially fade in about 10–14 days. Do not pick, scratch, or remove scabs or crusted skin.

Repeat treatments may be performed every 7–10 days if skin is fully recovered.

Acne Post-Treatment Guidelines (Pulsed-Light)

There may be an initial flare-up of acne, similar to a post-chemical peel procedure or at the beginning of a new acne medication. Some of the blemishes may form scabs; do not pick, scratch or remove scabs. The acne blemishes may fade after approximately 2–3 weeks.

Lux1540™ Laser Post-Treatment Guidelines

After treatment, apply cold compresses or cold packs to the treated area for 10–15 minutes every hour for the next few hours, as needed.

A mild sunburn-like sensation is expected This usually lasts 2–24 hours but can persist up to 72 hours or more. Mild swelling and/or blanching may accompany this, but it usually resolves in 2–5 days (expect longer times for areas off the face). Significant redness or bronzing in the treated area may be observed and may persist in a mild form for several weeks. Over-the-counter 1% Hydrocortisone cream or aloe vera gel may ease redness or inflammation.

Minor crusting or peeling of the skin may occur. In rare cases, blistering may occur. An antibiotic ointment may be applied to the affected areas twice a day until healed.



Keep the area clean. Wash gently. Avoid aggressive scrubbing or the use of exfoliants, scrub brushes and loofa sponges until the sensitivity and color of the treated area has returned to normal. The use of retinoids should be avoided throughout the treatment course.

Avoid direct sun exposure, including sun lamps and tanning beds, for 2–3 weeks after treatment. If exposed to the sun, protect the treated areas with a full spectrum sun block of 45 SPF or higher, used regularly between treatments and after the treatment course is completed.

In darker skin types, some practitioners recommend a short course of a topical steroid to minimize post-inflammatory hyperpigmentation.

LuxIR™/LuxDeepIR™ Post-Care Guidelines

After treatment, apply cold compresses or cold packs to the treated area as needed.

Mild swelling and/or redness may be experienced, but it usually resolves in the first 24 hours. In rare cases, prolonged redness may occur. Over-the-counter 1% Hydrocortisone cream or aloe vera gel may ease prolonged redness or inflammation.



In rare cases, blistering may occur. An antibiotic ointment may be applied to the affected areas twice a day until healed.

Keep the area clean. Wash gently. Avoid aggressive scrubbing or the use of exfoliants, scrub brushes and loofa sponges until the sensitivity and color of the treated area has returned to normal.

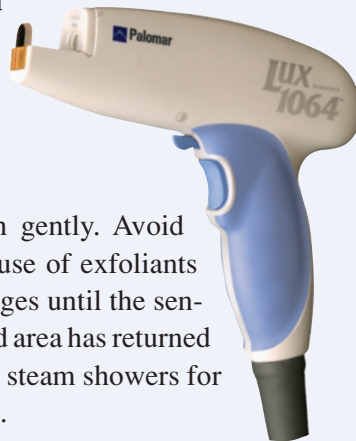
A cooling gel such as Humatrix™ may be used to enhance comfort and reduce erythema and edema.

Post-Treatment Guidelines (cont.)

Avoid direct sun exposure, including sun lamps and tanning beds, for 2–3 weeks after treatment. If exposed to the sun, protect the treated areas with a full spectrum zinc or titanium oxide sun block of 45 SPF or higher, used regularly between treatments and after the treatment course is completed.

Lux1064™ Laser Post-Care Guidelines

After treatment, apply cold compresses or cold packs to the treated area for 10–15 minutes every hour for the next few hours, as needed.



Keep the area clean. Wash gently. Avoid aggressive scrubbing or the use of exfoliants scrub brushes and loofa sponges until the sensitivity and color of the treated area has returned to normal. Avoid hot baths or steam showers for 24 hours following treatment.

A mild sunburn-like sensation is expected. This usually lasts 2–24 hours, but can persist up to 72 hours. Mild swelling and/or redness may accompany this, but it usually resolves in 2–3 days. In rare cases, prolonged redness or blistering may occur. An antibiotic ointment may be applied to the affected areas twice a day until healed. Mild swelling, bruising and redness typically resolve within one month. Bruising may be observed when reticular vessels have been treated.

Avoid direct sun exposure, including sun lamps and tanning beds, for 2–3 weeks after treatment. If exposed to the sun, protect the treated areas with a full spectrum zinc or titanium oxide sun block of 45 SPF or higher, used regularly between treatments and after the treatment course is completed.

Care should be taken to prevent trauma (bumping, banging, scraping, tight clothing, etc.) to the treated area for the first 4–5 days following treatment.

Wearing compression stockings daily for 3–7 days following reticular or blue leg vein treatment can enhance the results.

If possible, avoid anti-coagulants for several days after treatment. Consult with prescribing physician.

Until redness has resolved, it is recommended to avoid the following:

- Application of cosmetics to treated areas.
- Swimming, especially in pools with chemicals.
- Hot tubs and jacuzzis.
- Activities that cause excessive perspiration. ■



Watch for your next edition of *LuxLetter* in the winter of 2008. Our goal is to provide a helpful quarterly publication of useful and in-depth treatment hints, written by top clinicians, for hands-on StarLux users.