

PHOTOSILK *plus*

How to Perform a Treatment with a DEKA Pulsed Light System



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Pulsed Light Safety

Place Photosilk Plus system in standby when not in use.

Store key away from Pulsed Light system.

Pulsed Light system should be used by trained personnel.

Equipment should be cleaned with mild disinfectant.

Normal Disinfection:

A gauze soaked with disinfectant can be used to clean and disinfect the handpiece before starting a treatment.

If alcoholic solutions are used it is absolutely necessary not to use the handpiece to perform a treatment until the handpiece's surface is completely dry.

Deep disinfection:

As the window of the handpiece is the only part which comes in touch with the skin, only this part (white colour) might be disinfected "by immersion" in a solution of Glutaraldehyde (for example CIDEX 2%) or similar solution.

REMARK: Handpiece contains a Xe Lamp and therefore it cannot be autoclaved or cold sterilized.

Pulsed Light Treatment: General Contraindications.

Light sensitivity to the treatment wavelength.

Individuals that exhibit sensitivity to the pulsed light wavelength are not candidates for laser therapy.

Medications contraindication to sunlight;

(Cyclines, gold treatments, accutane)

Administration of carotenoids or vitamin A;

(elevated risk of hyperchromia).

Seizure disorders triggered by light (for example: epilepsy);

Individuals that exhibit seizure disorders triggered by light may develop seizures from the pulsation of the repetition rate of the system and are not candidates for pulsed light therapy.

Recent sun exposed skin, tanning;

Recent sun exposure or tanning are two contraindications that usually increase the likelihood of post treatment complications such as blistering, hyper or hypopigmentation and or scarring.

Pregnancy.

Scar disorder.

Suspicious pigmented lesions.

Moreover it is strongly advised against treating *evolutive hairiness*, and in particular adolescents between the ages of 12 and 18 years.

Pulsed Light Treatment: Possible Side Effects.

Purpura, blisters, scabs or temporary swelling:

Treatment with cortisone creams.

Oedematous swelling:

Avoid photosensitizing drugs.

Hypopigmentation:

The risk is higher in darker phototypes.

If the skin is highly pigmented, or the fluence is too high, the skin melanin will absorb a significant part of the light, with a resulting epidermal heating that could cause pain, burning and at times hyper/hypo-pigmentation.

If the precautions regarding the exposure to the sun are not observed (no sun for the two weeks prior to every treatment session), or in the case of severe erythema from the sun during the months before the treatment, hyper/hypo-pigmentation may be possible.

IS THE TREATMENT PAINFUL?

The sensations of *pain* or *discomfort* normally felt are similar to a rubber band pinging against the skin. Their intensity will depend on:

- Individual sensitivity;
- The body site being treated (for example the face is more sensitive than the legs, and the central part of the face is more sensitive than the peripheral part);
- The pigmentation of the skin. The greater the skin pigmentation, the greater the heating of the epidermis. Fair skins are less sensitive;
- The density of the hairs, vessels or pigments. The progressive reduction of the hair, vessels or pigments density as the sessions are continued explains for the consequent reduction in the sensation of pain;
- the fluence.

All these parameters must be assessed in the aim of carrying out the most comfortable sessions possible for the patient.

If the patient feels unusual pain, immediately reduce the fluence. If this sensation persists, stop the treatment and try to ascertain the cause (tanning, inadequate parameters, illness, medications, etc.).

HAIR REMOVAL

Before treatment:

Inform the patient about:

The treatment methods.

The active principle of the pulsed light system.

The need to carry out a number of treatment sessions which will vary according to the characteristics of the subject.

Not to carry out other *epilation treatments* (waxing, tweezers, electric epilators) or bleaching hairs for at least 2 weeks (better 1 month) before the first treatment.

Avoiding exposition to the sun for at least 4 weeks before the treatment (sun exposure must be avoided to avoid post treatment complications).

Visit:

Health conditions and state of the skin.

Phototype, dimensions, colour and depth of the hairs.
Diagnosis of the problem (Hormonal-type pathologies).

Test:

Perform the test on the area to be treated.

Begin with the minimum recommended fluence.

Emit one pulse only.

Wait for at least 1-5 minutes (in case of dark skin type, wait for at least 5-10 minutes)

Assess the reddening:

- If the reddening is average (the typical "end point" is *perifollicular erythema*): the treatment be started.
- If the reddening is minimum or absent: perform the test again increasing the fluence by 1J/cm².

REMARK:

Clinical end point → erythema and follicular edema, may last for 24-48 hours.

Treatment procedure:

Clean the area to be treated;

Skin should be void of makeup, lotions, perfumes, deodorant.

Protect all skin marks (like moles, tattoos, permanent makeup) by covering them with a piece of white paper or a dermatological pencil.

Take picture for documentation.

The hairs must be 1mm long;

Patients should be instructed to shave 1-3 days prior to the laser therapy. Hair shafts more than 1mm in length should be shaved or trimmed shorter to prevent energy from being wasted by absorption in the external hair shafts. There is also a potential for epidermal thermal injury due to contact of charred hair above the skin.

Waxing and electrolysis should be avoided for 1 month to allow for the growth of the hair follicle. For effective laser treatment the hair follicle must be in the anagen or growing phase.

Protect moles and any lesions (white dermatological pencil).

Apply on the skin a thin layer of clear, colorless water-based gel.

Select the parameters.

Explain what the patient should expect when the light pulse is delivered.

Begin the treatment.

NOTES:

Slightly press the handpiece on the skin surface.

It is recommended always checking the skin reaction and, if necessary, adjust the values of the treatment parameters.

It is recommended always cleaning the handpiece window; during treatment check that no impurities have remained on top.

It is recommended paying great care in the choice of fluence to be used, especially

- if the operator lacks extensive know-how of the use of pulsed light systems;
- if the patient's anamnesis is not well-known;
- if there is the risk of possible pigmentation reactions.

Post Treatment Care:

Following the treatment the area will exhibit a slight erythemic response with follicular edema (may last 24-48 hours).

Apply ice or cold gel post treatment.

Patient has to apply ointment to treatment area.

Cream Cu-Zn for 7 days

In case of folliculitis: local antibiotic twice daily

avoid sun exposure, and tanning between Tx (total sun screen).

avoid hot showers, sport activities for 2-3 days.

The patient should be instructed that the treated follicle needs to be expelled by the body similar to a foreign body. This process takes approximately two weeks.

The next treatment is scheduled in 2 to 6 weeks (depending on the hair regrowth changing from patient to patient). If there is no hair growth, the patient is instructed to return when the hair grows.

PHOTOREJUVENATION:

Before Treatment:

Information for the patient:

Description of the method : non-invasive treatment for rejuvenating the face, neck, throat and back of the hands.

Active principle of the pulsed light lamp.

Illustrate the limits and possibilities of the treatment (with realistic expectations!).

Illustrate typical immediate skin reaction after treatment with pulsed light system.

Avoid exposure to the sun before (at least 1 month), during and after treatment (use total protection screen).

Suspend the administration of Accutane at least 2 months before the treatment.

Do not take Aspirin for several days before the treatment in order to avoid purpura.

Visit:

Health conditions and state of the skin;

Precise diagnosis of type of skin (pigmented, vascular or mixed heliodermia).

Carefully assess the patient's phototype, the type of lesion and/or predominant component (vascular or pigmentation).

Make sure that the patient is not taking incompatible drugs (photo-sensitizers,, anticoagulants, retinoids...).

Have the patient sign an "informed consent" declaration.

Test:

Perform the test in a periauricular area;

The skin reaction will be delayed, so wait 5-10 before judging the test results.

The end-point, in the case of vascular domination, is represented by a slight sub-purpurous erythema associated with a sensation of heat that must diminish after a few minutes.

If the heat sensation increases instead, reduce the fluence.

With the formation of purpura reduce the fluence.

The end-point, in the case of pigmentation being dominant, is represented by a slight "darkening" of the lesion itself.

For darker phototypes (\geq IV) assess *the test results after 48 hours!*

Treatment procedure:

Clean the skin thoroughly and remove all traces of makeup.

Protect all skin marks (like moles, tattoos, permanent makeup) by covering them with a piece of white paper or a dermatological pencil.

Select the parameters on the basis of the indicative protocol and the test results obtained.

Apply a uniform layer of transparent water-based gel.

Carry out the treatment starting from the periauricular area towards the medial zone.

Usually only one application is carried out per session.

If it is possible, in order to carry out the best possible treatment (more homogeneous and uniform) rotate the hand piece by 90° at every session (or application).

Explain what the patient should expect when the light pulse is delivered.

Take picture for documentation.

PRECAUTIONS:

Carry out 2 or 3 pulses and wait a few minutes before assessing the delayed reaction.

The sensation of heat usually manifests 30-60 s after the pulse emission.

In the event of changes in the skin from one session to the next, conduct the test again and adapt the treatment parameters accordingly.

Always carry out a *full-face* treatment.

Delicately rest the handpiece on the skin **without under any circumstances pressing the handpiece slightly above the skin surface (floating handpiece technique).**

In the prominent bone areas, hold the handpiece away from the skin slightly.

In males, do not treat the beard region unless hair removal is required.

In the case of treating the prelabial region or the cheeks, protect the teeth with wads of cotton wool soaked in fresh water.

In the case of treating the periocular region protect the eyes with suitable shields.

Take care not to inadvertently epilate the eyebrow area.

It is recommended always checking the skin reaction and if necessary, adjusting the values of the treatment parameters.

It is recommended always cleaning the handpiece window; check that no impurities have remained on top.

It is recommended taking care with the choice of fluence to be used particularly if you have not had much experience with pulsed light systems, if you do not know the patient's anamnesis well or if there is the risk of pigmentation reactions.

When treating darker phototypes use handpieces with greater filtration and multi-pulsed emission, increasing the delay between one pulse and the next. The neck, the décolleté, throat regions and back of hands are more delicate than the face. It is therefore recommended taking great care and using lower fluence values.

Typical immediate post treatment reaction:

Slight darkening of spots, freckles and other pigment marks (fades 15-20 days max.).

Small scabs near the vessels treated (disappear 8-10 days max.).

Slight oedema (disappears 24 hours).

Slight erythema (disappears 1-3 days).

Post Treatment Care:

Apply ice or cold gel post treatment.

At the end of the session use a thermal water spray and a moisturizing cream. Repeat the application every day for a week.

Patient has to

- avoid sun exposure, and tanning between Tx (total sun screen).

- avoid hot showers, sport activities for 2-3 days

The next treatment should be scheduled in about 4 weeks.

Remark about vascular lesions:

The vascular lesions that can be treated with the Photosilk Plus system include couperose and telangiectasias with vessels with a diameter of up to 0.6mm; small angiomas (star/ruby angioma...);

Apply a layer of cicatrizant cream at the end of the session. Repeat the application every day for one week at the most.

Small scabs may appear around the vessels treated that disappear within 8-10 days.

Remark about pigmentation:

When treating pigmentation lesions the radiation absorption is greater in the lesion and for this reason the sensation of heat is very important here.

Apply a layer of cicatrizant cream at the end of the session. Repeat the cream application every day for one week at the most.

After 2-3 minutes of treatment the lesion turns darker and a small erythema will appear on its edges.

Small scabs may form in the area of the lesions treated, which disappear within 15-20 days.

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