

## Laser, lights and acne

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Acne is a very common skin condition, linked to hyperactivity of the sebaceous glands and abnormalities in the excretion of sebum produced by these glands.

Lasers are increasingly being proposed by dermatologists to help manage acne: there are many different types, and depending on their objective, they can be classified into 4 groups:

- A) Those that act on the inflammation of acne lesions
- B) Those designed to reduce sebum production
- C) Those designed to atrophy sebaceous glands
- D) Those designed to treat acne scars.

So there's no single laser treatment for acne, but rather a range of different actions and types of laser, depending on the objective.

Whatever the objective, laser treatment cannot be proposed as a first-line treatment.

### **A) Lasers to reduce inflammatory lesions (red, more or less raised "pimples")**

In these cases, laser or light treatment may help as a second-line treatment.

As a general rule, your dermatologist will first prescribe topical treatments (creams, lotions, etc.) and skin cleansing or peels, possibly zinc or tetracycline tablets to start the treatment...

A wide range of lasers are available:

- Vascular lasers (pulsed dye, KTP and Nd-YAG)
- Pulsed polychromatic light
- single LEDs, mainly blue and red, but also yellow and infrared, if possible in combination.

### **Treatment follow-up and side effects:**

With LEDs, the after-effects are almost non-existent: a discrete pinkish appearance may appear.

With other lasers, diffuse redness and swelling may persist for a few days. There is no risk of scarring if the usual treatment regimens are followed. Sun exposure should be avoided for 3 to 4 weeks to prevent the appearance of pigmented spots, which are generally transitory.

### **B) Lasers to reduce excess sebum**

Infrared lasers (Aramis™ or Smoothbeam™): These are deep-penetration lasers that act on the sebaceous gland to reduce its secretory activity. Some fractionated microneedle radiofrequencies may also have comparable efficacy, but data in the literature are more recent.

### **Treatment follow-up and side effects :**

As with previous lasers, the after-effects are marked by redness and swelling, which may persist for a few days. There is no risk of scarring if the usual treatment regimens are followed. Sun exposure should be avoided for 3 to 4 weeks to prevent the appearance of pigmented spots, which are generally transient.

Dynamic phototherapy (PDT), combining the application of a photo-sensitizing cream with red or blue LEDs, IPL or pulsed dye laser, which activate the cream.

### Treatment follow-up and side effects:

Treatment sessions can be highly effective, but at the cost of side-effects that are all the more marked because the protocol was intended to be effective and, as a result, aggressive. The after-effects are marked by pustules, redness, swelling and erosions, followed by crusts that persist for 8 to 10 days. They prevent any social life. The intensity of the treatment can be modulated to reduce side effects, but the efficacy will also be reduced...

Sun protection is recommended for the month following each treatment, to avoid any hyperpigmentation (pigmented spots) that may persist for several months.

### **C) Lasers for long-lasting acne reduction**

These lasers, the fruit of long development, feature a new wavelength (1726nm), specifically targeted at sebum. Their target is therefore the sebaceous gland, and their aim is to specifically atrophy it, in order to achieve truly lasting effects.

They have only been available in the USA since early 2023, and in France since February 2024. The studies that led to their medical approval involve a two-year follow-up.

#### Treatment follow-up and side effects:

The after-effects are straightforward: immediately after treatment, a pinkish appearance of the skin is observed, which dissipates within a few hours, rarely one or two days. Very rarely, a few small blisters 2 to 3 mm in diameter may form, healing within a few days. ... Make-up can be applied immediately after treatment.

Sun protection is recommended for the month following each of the 3 sessions, to avoid any hyperpigmentation (pigmented spots) that may persist for several months.

### **D) Lasers to treat residual scars**

Your doctor will provide you with an information sheet specifically devoted to these laser techniques which, while they may not completely erase scars, usually give very satisfactory results after several sessions.

### **Special points:**

- **Pregnancy:** this is not an absolute contraindication, and lasers can be used in cases of acne aggravated by pregnancy, when the patient cannot take medication or apply certain creams that are dangerous for the foetus.

- **Pigmented and dark skins:** with the 1726 nm laser, treatment remains possible without any skin tone-related modifications. With other techniques, treatment will need to be adapted: LEDs alone, without phototherapy, and Smoothbeam™ and Aramis™ lasers, can be used, but with lower fluences for the latter.

- **Medication may interfere with treatment:** you must absolutely inform your doctor of any medication you are taking or any difficulties in healing.

- **Transient worsening of acne** (more or less marked depending on the type of laser used)  
As with the start of many acne treatments, a slight worsening may occur at the beginning of the treatment, which will subside within a few weeks. This can be avoided, or at least minimized, by preparing the skin beforehand.

### **Treatment modalities**

The foreseeable number of sessions will be specified by your doctor.

The patient wears protective eye shields.

The sensation experienced ranges from a simple temperature rise of 1°C for LEDs to a sensation of rubber band or transient burning for other devices. PDT is very painful during illumination and the hours that follow.

It should be pointed out that all these treatments are not covered by health insurance, and that VAT of 20% is charged.

***This information sheet recommended by the French Laser Society can be given to you by your dermatologist. Even if it is not sufficient to have an estimate, it helps to give the patient a clear information.***

*The information consultation provides clear explanations on expected outcomes, side effects and possible complications. There are not any reimbursement from social security or medical leave for these aesthetic treatments. Prices are mainly based on the area to be treated. The total cost is to be evaluated with the patient and is the subject of a signed quote.*

*A post-operative order and an advice sheet are given to the patient with the doctor's contact information.*

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