

REJUVENATION BY LASER or other energy-based device

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Lasers and other energy-based devices that can be used to rejuvenate the face are... legion! Their main advantage in rejuvenation techniques is that they can tone and brighten the skin without altering facial contours or expressions - only the facial "mask" is improved.

List of technologies available in 2023

(From the most effective, invasive and socially evasive techniques for severe ageing with very wrinkled skin, to the lightest techniques aimed more at prevention than correction without social eviction, but with the corollary of lesser efficacy, sometimes only felt by the patient but not visible on photos... To be "beautiful" or "handsome", you still have to suffer... otherwise you have to accept compromises!

- **CO₂ or Erbium-YAG 2940 nm ablative laser in conventional mode** (laser "resurfacing" with dermabrasion, controlled vaporization of all facial skin) under truncular or general anesthesia, with 10 to 15 days' social eviction. The risks are exceptional, and have been described in untrained hands: hyperpigmentation or achromia, infections, scars, etc. Wrinkles, even deep ones, are smoothed out, and the skin is truly re-tautened, lifted, especially in the lower face, clear, soft and totally "new". The treatment of the eyelid area, which is very popular, enables a real contraction of these areas of thin skin, known as "non-surgical blepharoplasty", without scarring. Patients can expect to look 10-20 years younger, depending on the parameters used. The most important thing is for the patient to be familiar with the after-effects (erythema, major edema) and to feel confident about the procedure. Two prior consultations are preferable, the second if possible in the presence of the partner.

- **Fractionated technologies** with intervals of healthy skin, collagen stimulation around micro-wells created by various "pro-healing" or "pro-regenerative" techniques. Around and under each microwell, the synthesis of collagen and other dermal elements is stimulated. Skin texture (thickened, velvety), complexion and certain wrinkles, especially periorbital wrinkles, are improved:

- o CO₂ fractional laser
- o 2940 nm Erbium YAG fractional laser
- o Fractional radiofrequency with microneedles
- o Non-ablative fractional laser Erbium Glass 1550 nm or other
- o Q-switch YAG fractional laser

We generally use anesthetic cream. Social eviction (as the degree of improvement) depending on the energy per point and the density of points ranges from 3 to 5

days. The risks are minimized because there are islets of healthy skin to heal and pigment. We perform 1 to 3 sessions depending on the parameters used.

- **Non-ablative radiofrequencies or remodeling laser** (thermal stimulation shock)

- Single or bipolar radiofrequency
- Nd: YAG laser
- Smoothbeam or Aramis laser...

The aftermaths are light with only slight redness or swelling.

- **High intensity focused ultrasound:** they can create deep thermal shocks, followed by fibrosis and anchoring with tension release. Sessions are more or less painful, depending on the parameters used, but there is no social eviction.

- **Meso-laser or Meso-radiofrequency:** after a fractional technique that micro-perforates the skin, to apply the products of mesotherapy to obtain a deep penetration, homogeneous and without hematoma or papule, favored by massage or using ultrasound. There is no formal social eviction (pinkness and slight edema for 48 hours).

- **Pulsed lights:** they act on the superficial components of aging (spots and dilated vessels) and on the deeper component through thermal remodeling and collagen stimulation. There is no formal social eviction (slight swelling, redness and darker spots appearing for a few days).

- **LEDs:** they act to prevent or complement more invasive techniques through non-thermal, non-invasive photobiomodulation mechanisms at the level of cutaneous cellular photoreceptors. There is no visible after-effect, and therefore no social eviction.

- **Photo-dynamic photorejuvenation:** the technique of choice for patients with both severe solar ageing lesions (multiple solar lentigos, actinic keratoses) and fine wrinkles. This technique, derived from dermatological treatments for multiple and extensive superficial skin cancers and precancers, will improve UV-damaged cells and spots, as well as skin tone, texture and fine lines. The pain and after-effects depend on the severity of the photoaging: the more cells are damaged, the more severe they are. In general, these side effects of swelling, redness, crusting and desquamation will last 5 to 6 days.

Contraindications:

Of principle: Pregnancy

Diseases with healing disorder (history of keloids, connective tissue disease, diabetes ...)

Certain medications (retinoids, photo-sensitizing treatments, aspirin, anti-inflammatory drugs, anticoagulants or antiaggregants can interfere...).

You will need to notify your doctor if you are taking any medications.

Unrealistic expectations

Side effects:

They depend on the technique used and have been described in the preceding paragraphs.

Some general points:

- Never scratch or attempt to remove crusts or scabs before they have been spontaneously eliminated by prescribed healing agents.
- Good hand hygiene is essential
- Following invasive techniques, fair-skinned patients may experience redness, while dark-skinned patients may experience pigmentation lasting from several weeks to several months. These are almost always transitory, and make-up can always be applied.
- Sun protection is essential after these treatments for several reasons: to reduce the risk of pigmentation and to avoid rapid recurrence (alteration of complexion, spots, wrinkles, etc.).

Practical consequences: pre- and post-operative care

Here too, they depend on the technique used, and range from nothing at all, to the application of healing agents, to dressings lasting several days.

Methods of treatment

The patient usually wears protective eye shields.

The patient is anesthetized with cream and/or pulsed cold and/or truncular anesthesia if parameters are high (blocking of superficial sensory nerves at their emergence "like at the dentist's"), or even general anesthesia for dermabrasions.

Benefits are generally assessed from the 2nd month onwards, reaching their peak between 3 and 6 months, or even 12 months (cell response time to laser or other stimulus).

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, alternative techniques (especially peelings or surgery), 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 (neutral emollients, sunscreen, even depigmenting cream for the face, make-up) and an advice sheet are given to the patient with the doctor's contact information.

For more information you can still consult your doctor again before the act.