

Bahnhofstrasse 110
CH - 8001 Zürich

Telefon: 044 225 41 41
Telefax: 044 225 41 42
www.hautzone.ch



Laser resurfacing in english

Surgery Overview

Laser resurfacing uses a laser to send out brief pulses of high-energy light that are absorbed by water and certain substances in the skin called chromophores. The light is changed into heat energy, and the heat then destroys (vaporizes) thin sections of skin, layer by layer. As the wounded area heals, new skin grows to replace the damaged skin that was removed during the laser treatment.

The CO₂ (carbon dioxide) laser is the most common type of laser used for resurfacing. Erbium lasers are also used frequently.

Laser resurfacing is usually very precise and causes little damage to the surrounding skin and tissue. It is done most often on the face, but it may be done on skin in other areas of the body. The hands, neck, and chest may be avoided, because skin in these areas does not heal as well as it does in other areas. It tends to thicken and scar as a result of the laser treatment. Some surgeons are willing to treat the neck with a lower-energy laser.

How is it done?

The areas to be treated are cleaned and marked with a pen. A nerve block with a local anesthetic is usually used to numb the area before treatment. You may also be given a sedative or anti-anxiety medication, such as diazepam (Valium), to help you relax. If your entire face is going to be treated, you may need stronger anesthesia (in some cases, general anesthesia), pain relievers, or sedation. You may be given goggles to wear to prevent eye damage by the laser, and wet towels will be placed around the area to absorb excess laser pulses.

The laser is passed over the skin, sending out pulses. Each pulse lasts less than a millisecond. Between passes with the laser, the skin will be wiped with water or a saline solution to cool the skin and remove tissue that the laser has destroyed. The number of passes required depends on how large the area is and what type of skin is being treated. Thin skin around the eyes, for instance, requires very few passes with the laser. Thicker skin or skin with more severe lesions requires a greater number of passes.

The pulses from the laser may sting or burn slightly, or you may feel a snapping sensation against your skin. Little or no bleeding occurs in most cases, although severely damaged skin may bleed. When the treatment is finished, the area is covered with a clean dressing or ointment.

Laser resurfacing is usually done in a doctor's office or outpatient surgery center.

What To Expect After Surgery

The time needed for healing and recovery after laser resurfacing varies according to the size and depth of the treated area. Someone who has the full face resurfaced, for example, will require a longer recovery time than someone who has only a small area of skin treated.

In general, the wounded area will be **pink, tender, and swollen for at least several days**. Cold packs and anti-inflammatory medications (such as acetaminophen or ibuprofen) may help reduce swelling and pain. Once skin regrowth occurs, the skin will remain red for several weeks.

Proper care of the treated area while the skin is healing is extremely important. This involves:

- Rinsing the skin several times a day with cool tap water to avoid infection and to get rid of the crusting that sometimes develops. Soaps and perfumes should be avoided.
- Changing the ointment or dressing on the treated area to keep the area moist and promote healing.

- Avoiding sun exposure and, after peeling has stopped, using sunscreen every day. New skin is more susceptible to sun damage.
- You may be given an antiviral drug called acyclovir to prevent infection if a large area of the skin was treated or if you have a history of infection with the herpes simplex virus.
- Several follow-up visits to your doctor will be needed to monitor the skin's healing and regrowth and to identify and treat early signs of infection or other complications.

Why It Is Done

Laser resurfacing may be used to remove or improve the appearance of:

- Wrinkles.
- Superficial scars caused by acne, surgery, or trauma that are not growing or getting thicker.
- Color (pigment) changes or defects in the skin, such as liver spots (lentiginos), port-wine stains, or café au lait spots.
- Lesions or growths in the upper layer of skin (such as actinic keratoses, rhinophyma, or birthmarks). Any growth that could be malignant should be evaluated using a biopsy before laser resurfacing is done.
- Tattoos. People with lighter skin who do not get a lot of sun exposure after the procedure tend to have the best results. People with darker skin may benefit from laser resurfacing, but their skin may not heal as well.

You may not be a good candidate for laser resurfacing if you:

- Have had skin color changes, scarring, or thickened tissue (fibrosis) as a result of earlier treatment.
- Have a skin, blood flow, or immune disorder that could make healing more difficult.
- Have a history of abnormal scarring (keloid or hypertrophic scars).
- Are currently using isotretinoin (Accutane, a drug used to treat acne) or have used it within the last 6 to 12 months. This increases the risk of scarring after the procedure.
- Have a bacterial or viral infection of the skin.

How Well It Works

Your skin type, the condition of your skin, your doctor's level of experience, the type of laser used, and your lifestyle following the procedure can all affect the short-term and long-term results of laser resurfacing. Some types of skin problems or defects respond better to laser resurfacing than others. People with lighter skin who limit their sun exposure after the procedure tend to have better results than those with darker skin and those who continue to spend lots of time in the sun.

In general, laser resurfacing tends to have good results with fairly low risks.

- Wrinkles caused by aging and long-term sun exposure, such as those around the eyes and mouth, respond well to laser resurfacing. The long-term results for these types of wrinkles are unknown. Keep in mind that new wrinkles will probably appear as your skin continues to age.
- Wrinkles caused by repeated movement and muscle use (such as those on the forehead or along the sides of the nose) may be improved but not eliminated. They often come back months or years after treatment because the muscles continue to perform the activities that caused the wrinkles before treatment.
- Mild or moderate acne scars may be somewhat improved. Laser treatment is less effective on severe acne scars.
- Tattoos can usually be completely or almost completely erased with 4 to 10 sessions of laser treatment over several weeks or months. Usually some skin color changes occur in the treated area. Rarely, laser treatment may make the ink in the tattoo darker and harder to remove.

The long-term results may not be evident for several months.

Risks

Side effects and risks of laser resurfacing may include:

- Swelling, itching, crusting, and tenderness. These are expected, temporary effects of laser resurfacing.
- Redness (erythema). Normally this lasts 6 to 12 weeks, but it may last up to 6 months in some people. Some people may turn red or flush during stress or exertion more easily than they used to for up to a year.
- Color (pigment) changes in the skin. In 30% to 40% of people, especially those with darker skin tones, the treated skin is darker than the surrounding skin. Bleaching or peeling of the skin can help lighten the skin for a more uniform skin tone, and the skin may fade on its own over time. A small number of people have a loss of color in the treated skin 6 to 12 months after the procedure. This effect may be permanent, especially with deeper laser treatments.
- Skin irritation, including acne flare-ups in people who are prone to acne.
- Bacterial, viral, or fungal infection of the skin. Infection may affect the rest of the body as well.
- Scarring (rare). Scarring may be improved with medication.

- A condition in which the edge of the eyelid rolls outward and exposes the inside of the eyelid (ectropion). This is a rare but serious complication of laser treatment in the eye area. Surgery is sometimes needed to correct it. It is more likely to occur in people who have a loose lower eyelid or who have had surgery on their lower eyelids (blepharoplasty).

What To Think About

Expectations

Laser resurfacing wounds and destroys the skin. You need to prepare yourself for how your skin will look immediately after treatment and throughout the healing process. It is also extremely important for you to follow your doctor's instructions on caring for your skin after the treatment to avoid infection and help the skin heal.

Be sure that your doctor understands what you hope to achieve and that you understand what results you can realistically expect. Even with realistic expectations, you may not see results for several weeks or months after laser resurfacing. You may need more than one treatment to achieve the results you want.

Sun protection

After laser resurfacing, you will need to wear sunscreen every day and avoid sun exposure as much as possible. New skin is more susceptible to damage and discoloration from sunlight.

Options for resurfacing

Laser resurfacing, chemical peeling, and dermabrasion are the most commonly used techniques for improving the texture and appearance of the skin. Although these techniques use different methods, they have basically the same effect on the skin: They destroy and remove the upper layers of skin to allow for skin regrowth.

No one technique is necessarily better than the others. When performed by an experienced surgeon, laser resurfacing may be slightly more precise than chemical peels or dermabrasion. However, the choice of technique is based on the site you want to treat, your skin type and condition, the doctor's experience, your preferences, and other factors. Some people may get the best results by using a combination of techniques.