PROCEDURE

Laser surgery for the skin

Laser skin surgery uses focused light to remove or alter skin tissue for medical or cosmetic treatment.

PURPOSE
Resurface skin or target scars, vessels, pigment, hair, or tattoos

PROCEDURE TYPE
Therapeutic - minimally invasive treatment using focused light

WHERE IT IS DONE
Outpatient clinic; operating theatre for extensive treatment

ANAESTHESIA
Topical or local; sedation or general for extensive treatment

HOW LONG IT TAKES
15 minutes to 2 hours, based on treatment area

PREPARATION
Sun protection, medication review, and skin care as instructed

RECOVERY
Same day; no driving after sedation or general anaesthesia

MAIN RISKS
Burns, infection, scarring, and skin-colour changes

RESULTS
Early changes immediately; final results over weeks to months

Overview

Laser surgery for the skin uses a concentrated beam of light to heat, remove, or alter selected tissue. "Laser surgery" covers many treatments rather than one standard procedure.

Ablative lasers remove the skin's outer layers and heat deeper tissue. They may produce a stronger resurfacing effect, but healing usually takes longer. Non-ablative lasers heat tissue without removing the surface. Recovery is often shorter, although several sessions may be needed.

Other lasers target particular colours in the skin. For example, they may target red blood vessels, brown pigment, tattoo ink, or dark hair. The choice of laser, its settings, and the number of treatments must be matched to your skin tone and treatment goal.

Laser treatment does not always remove a concern completely. Results may also change with ageing, sun exposure, or the return of the condition being treated.

Why the procedure is performed

Laser skin surgery may be offered to:

Not every laser can treat every problem. A laser that targets blood vessels works differently from one used for resurfacing or tattoo removal.

If a growth might be skin cancer, it usually needs a clear diagnosis before cosmetic laser treatment. A biopsy removes a sample for laboratory testing. Destroying a growth with a laser can leave no tissue for that testing.

- Soften fine lines, sun damage, or uneven skin texture
- Improve some acne, surgical, or injury scars
- Treat visible blood vessels, redness, or certain birthmarks
- Reduce selected areas of excess pigment
- Fade tattoos
- Reduce unwanted hair
- Remove or treat certain benign, or non-cancerous, skin growths

Who should and should not have it

You may be a suitable candidate if the type of laser has a reasonable chance of meeting your goal and you understand the expected recovery, risks, and possible need for repeat sessions.

People with darker skin tones can have laser treatment, but some lasers and settings carry a higher risk of lasting light or dark patches. Experience treating your skin tone is important.

Treatment may be avoided, modified, or delayed if you have:

Tell your healthcare team if you have previously had cold sores, poor wound healing, abnormal scarring, or changes in skin colour after an injury. Also mention recent or current isotretinoin treatment. Its relevance depends on the procedure and your individual circumstances.

- An active skin infection, cold sore, open wound, or significant inflammation
- Recent tanning or sunburn in the treatment area

- A tendency to develop thick, raised scars called keloids
- A health condition or medicine that affects healing, bleeding, or light sensitivity
- Expectations that the proposed laser is unlikely to meet
- A skin growth that has not been diagnosed
- Pregnancy, when the procedure is elective and can safely wait

How to prepare

Your treating facility's own instructions take priority because preparation differs by laser, treatment area, and type of anaesthesia.

Protect the area from tanning and sunburn before treatment. Your team may ask you to use broad-spectrum sunscreen and avoid self-tanning products.

Provide a complete list of medicines, supplements, and skin products. Some can increase bleeding, sensitivity to light, or irritation. Do not stop a prescribed blood thinner or any other medicine unless the clinician who manages it has given you a plan.

You may be asked to stop irritating products, such as retinoids or exfoliating acids, for a period before treatment. If facial resurfacing could trigger cold sores, preventive antiviral medicine may be prescribed.

Ask whether you need to arrive without makeup, lotions, deodorant, or jewellery. Fasting is usually unnecessary for treatment with topical or local anaesthetic, but it may be required if you will have sedation or general anaesthesia.

Arrange for an adult to take you home if sedation or general anaesthesia is planned.

What happens during the procedure

The treatment area is cleaned. Photographs may be taken to document the starting point. Everyone in the room wears eye protection designed for the specific laser. For treatment close to the eye, special shields may be used.

Pain control may involve cooling, numbing cream, injections of local anaesthetic, sedation, or general anaesthesia. Extensive resurfacing usually needs more pain control than treatment of a few small blood vessels.

The clinician passes a handpiece over the skin and delivers short laser pulses. You may notice bright flashes, clicking sounds, warmth, or a snapping sensation. Smoke or vapour created by

treatment may be removed with suction.

Afterward, the area may be cooled and covered with ointment or a dressing. Small treatments can take about 15 minutes. Larger or more complex procedures may take up to 2 hours.

Recovery and what to expect afterward

Pain is often described as burning, stinging, or tenderness similar to sunburn. Cooling and the recommended pain relief may help. Ablative resurfacing can cause more discomfort, swelling, crusting, or oozing while new skin forms.

You can usually eat normally after local anaesthetic. After sedation or general anaesthesia, follow the facility's instructions about restarting drinks and food.

Activity restrictions depend on the treatment. Keep the area clean and use dressings, ointment, moisturiser, or sunscreen exactly as directed. Do not pick crusts or peeling skin. Avoid swimming, strenuous exercise, heat, and direct sun until your team says these are safe.

Do not drive on the day of treatment if you received sedation or general anaesthesia. You should also avoid driving if swelling affects your vision or you are taking medicine that makes you drowsy.

You may return to work the same day after a small treatment. Visible redness or swelling may make you prefer several days away. Deeper resurfacing can require one to two weeks or longer before the skin looks and feels healed enough for normal public activities.

Risks and possible complications

Expected short-term effects include redness, swelling, tenderness, peeling, and temporary changes in skin colour. Their intensity depends on the laser and treatment depth.

Possible complications include:

Some colour changes fade over time, but they can be long-lasting. Following wound-care and sun-protection instructions can reduce several risks but cannot remove them completely.

- Burns, blisters, or delayed healing
- Bacterial, viral, or fungal infection
- Reactivation of cold sores
- Darkening or lightening of treated skin

- Scarring or changes in skin texture
- Persistent redness or visible small blood vessels
- Acne-like spots or tiny white cysts after resurfacing
- Incomplete improvement or recurrence of the treated concern
- Eye injury if proper protection is not used

Results and follow up

Some changes, such as darkening of a targeted vessel or pigment spot, may be visible immediately. This is not always the final result. Swelling, redness, and crusting can temporarily hide improvement.

Resurfacing results become clearer as the skin heals and new collagen develops over the following weeks or months. Hair, tattoos, scars, blood vessels, and pigment concerns often need a series of treatments.

Attend routine follow-up so your team can check healing, review the response, and decide whether another session is appropriate. Contact them between visits if healing is not progressing as expected.

Use the recommended sun protection. Sun exposure can worsen colour changes and contribute to new skin damage.

Alternatives

The practical alternatives depend on what is being treated.

- No treatment or observation: avoids procedure risks and recovery, but the concern remains and may change over time.
- Creams or other medicines: may help acne, pigment, redness, or scarring without a procedure, but results are often slower or more limited.
- Chemical peels, microneedling, or dermabrasion: can improve texture or selected scars; they have different recovery times and may be less precise than a laser.
- Intense pulsed light: uses a range of light wavelengths rather than a true laser. It can treat some redness or pigment but is not suitable for every skin type or concern.

- Freezing, heat treatment, scraping, or surgical removal: may be more appropriate for certain growths. Surgical removal provides tissue for laboratory testing but leaves a surgical wound and usually a scar.
- Electrolysis, shaving, waxing, or depilatory products: are alternatives for unwanted hair. Some require frequent maintenance; electrolysis can offer longer-lasting removal but treats hairs individually.
- Tattoo cover-up or acceptance: avoids laser-related skin injury, while laser fading may require many sessions and may not remove every colour.

When to call your healthcare team

Routine redness, mild swelling, tenderness, and peeling can be expected when they match the recovery plan you were given. Ask about them at your scheduled follow-up if they are steadily improving.

Contact your healthcare team promptly for:

Call emergency services for trouble breathing, severe facial or throat swelling, collapse, or another rapidly developing severe reaction.

- Increasing pain rather than gradual improvement
- Spreading redness, warmth, pus, or fever
- Large blisters, blackened skin, or a wound that is not healing
- A cold-sore outbreak near the treated area
- Swelling that is worsening or interfering with vision
- New eye pain, light sensitivity, or any change in vision

Common questions

Will I be asleep?

Usually not. Small treatments often use cooling, numbing cream, or local anaesthetic. Sedation or general anaesthesia may be used for extensive or deep resurfacing.

Can I drive home?

Not if you had sedation or general anaesthesia. You also should not drive if swelling affects your vision or your medicine causes drowsiness.

How painful is laser skin surgery?

Sensation ranges from mild snapping or heat to stronger burning. The treatment depth, body area, and type of pain control make a difference. Tenderness may continue during early healing.

When will I know if it worked?

Some effects are visible immediately, but swelling and healing can hide the result. Resurfacing changes may develop over weeks to months. Other treatments need several sessions before the benefit is clear.

Are the results permanent?

Some destroyed tissue, hair follicles, or tattoo pigment may not return, but complete removal is not guaranteed. New blood vessels, pigment, hair, wrinkles, or skin damage can develop later.

Sources

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