

## Procedures

### Laser Treatments

#### What are the issues?

Laser treatments in cosmetic surgery are generally sought for three principal reasons: tattoo removal, hair removal and skin rejuvenation. However, lasers also have a role in improving scars, treating pigmented lesions (e.g. age spots or birthmarks), vascular lesions (e.g. broken veins, thread veins and spider naevi) and viral warts.

The acronym LASER stands for Light Amplification through Stimulated Emission of Radiation. All lasers produce a purified form of intense light with a single wavelength, unlike normal light, which contains a range of wavelengths. This property allows lasers to target specific colours (chromophores) within the skin. The wavelength of the light produced by a particular laser determines its target and therefore its effects. For example, different lasers can be used to target the red colour of blood in vascular lesions including some birthmarks and scars, the brown colour of melanin in birthmarks, age spots and hair follicles or the different colours that make up tattoos. A combination of lasers can be used to remove the different colours of both amateur and professional tattoos.

Other lasers such as the carbon dioxide or erbium YAG laser target water in the skin cells and cause the surface layers to vapourise. These lasers are used to 'resurface' the skin. Everyone ages differently. People who have had significant sun exposure or are smokers may have premature skin damage resulting in wrinkle lines (rhytides) that may benefit from a resurfacing procedure. Lasers can target specific areas such as around the mouth in smokers, or the complete face for those with sun damage.

Excessive hair can occur naturally or in some cases may be due to an underlying medical condition. Either way, laser treatment can deliver permanent hair reduction, particularly with dark hairs, whether on the face, back, limbs, armpits or bikini line.

#### What can be achieved?

The results of laser treatments are variable and depend upon the extent and nature of the particular problem and its response to a particular laser. For removal of commercial tattoos, for example, multiple procedures are normally required, often with excellent clearance of the tattoo. However some colours such as yellow, turquoise, green and purple may prove difficult or impossible to completely remove with laser treatment. Other lesions such as isolated 'spider naevi' and small vascular marks often disappear with only one or two treatments.

Laser hair removal requires a course of treatment at intervals of four to six weeks to achieve best results. This is because only a proportion of the hair is actively growing at any one time and only these hairs are susceptible to the laser. Hair needs to be dark in order for laser treatment to be effective and although permanent hair reduction is achieved in most individuals, it does not result in complete absence of hair growth.

Laser skin resurfacing aims to reduce the appearance of aging, resulting in smoothing of fine lines and wrinkles to leave rejuvenated, suppler and tighter skin. Pigmented 'age spots' or blemishes can also be removed, giving the skin a more even tone.

#### What is the procedure?

Most procedures are carried out in the outpatient clinic and anaesthetic is rarely required. An air-cooling device is employed to make the procedure more comfortable as well as protecting the surface layers of the skin when deeper lesions are being targeted. Most patients describe the sensation of laser treatment as similar to the feeling of being flicked with an elastic band. Laser resurfacing is more extensive and often requires a local or general anaesthetic.

Safety is paramount with lasers, and you will be asked to wear protective goggles to prevent any possibility of eye injury from the laser beam. Depending upon the particular procedure, a dressing, ointment or gel may be applied to the treated area. This may be continued for a number of days thereafter.

Before any laser treatment, you should minimise sun exposure and avoid tanning beds for four weeks to maximise effectiveness of the laser. The same rules apply after laser treatment to encourage healing with a minimum risk of adverse outcome.

You will be provided with an information sheet which will detail the skin care and precautions expected both before and after your treatment.

## **What are the limitations?**

Laser treatments are not entirely predictable and the outcome can vary to a certain extent. Occasionally, we cannot achieve our objectives and meet your expectations. Some vascular lesions respond consistently well to treatment while others do not. Pigmented lesions and tattoos in particular, have a less consistent response which depends upon the colouring and depth of the pigment. Pastel colours and some silicone-based pigments are very difficult to remove. The response to laser can become less effective with each successive treatment.

Hair removal often requires several treatments and may need maintenance treatments in the future.

Finally, laser response also relates to your skin type. The darker your natural colour, the less effective the treatments will be and the higher the complication rate.

## **What are the risks?**

Generally, the complication rate with laser treatment is low and great care is taken to avoid any adverse effects. Permanent scarring is possible, particularly with resurfacing procedures, and becomes more likely if you experience difficulties with wound healing or infection.

Altered pigmentation compared to the surrounding skin may occur, with either a lighter or darker shade in the treated areas. Often this will improve in time but this is not always the case.

If you have ever suffered from cold sores in the area to be treated, you will be encouraged to take antiviral medication to minimise the risk of the cold sore virus being reactivated as this may result in scarring.

As with treatments of any kind, the response can sometimes be disappointing for both the surgeon and patient.

## **What can I expect afterwards?**

This largely depends upon the treatment you have had. Laser for vascular lesion may result in painless bruising which can take several days to settle. Pigmented lesions, on the other hand, often respond with some 'frosting' within the skin that then forms a crust which heals within a week. You should avoid any temptation to pick at these areas as poor scars may result.

Hair removal treatments often result in a degree of redness and swelling around the hair roots for up to two days. The hairs may not exfoliate (fall out) for up to two weeks and may appear to continue to grow in the meantime.

Facial resurfacing procedures generally require several days of dressings with regular and frequent skin care following discharge from hospital.

## Contact Us

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