

**The JCCP is committed to raising public awareness of the risks associated with various non-surgical and hair restoration treatments. As part of this process the JCCP will publish regular 'Information Sheets' in key areas.**

---

## Laser and light therapy (LIPLLED) / Energy based devices

---

Lasers are a medical device that emit light, but unlike a light bulb which has a rainbow of colours, lasers produce light at a single colour with a specific wavelength and direction. Many patients consider lasers and light therapy to be effective treatments for a variety of skin conditions that can have cosmetic implications. Lasers and IPL stand for 'Light wave Amplification by Stimulated Emission of Radiation' and 'Intense Pulsed Light' respectively.

Lasers can be delivered through a range of different mediums (a substance that makes possible the transfer of energy from one location to another, especially through waves) to give different wavelengths:

- Fluid – organic dyes
- Gas – CO<sub>2</sub>, Argon
- Solid – Ruby, Alexandrite, Nd:YAG, diode

Different wavelengths can be used to target different depths within the layers of skin and are therefore used to treat a wide variety of different skin problems and conditions.

LED - Light-emitting diode (a diode is an electrical device that allows an electrical current to pass through it) therapy is an increasingly popular methodology for the treatment of sun damage and for the signs of aging. It can be used to help soften lines and aid in a more youthful look.

The JCCP seeks to regulate lasers used for treating cosmetic procedures such as hair removal, skin resurfacing / rejuvenation, treatment of vascular (relating to blood vessels in the skin)/ pigmented (coloured)/ scar / acne lesions/skin abnormalities and tattoo removal.

### Effects/Benefits

The effects and benefits of laser and light treatments are as diverse as the devices used. However, they all have in common the highly effective ability to remove unwanted cosmetic concerns that relate to the skin.

### Laser Skin Revitalisation

Laser resurfacing is a very controlled procedure in which a laser removes superficial layers of facial skin. It can remove not only wrinkles and lines caused by sun damage and facial expressions, but also acne scars. Cosmetic lasers work by heating tissue which stimulates the new growth of tissue for example new collagen in the skin. Skin

resurfacing can be performed via ablative (i.e. the removal of a layer (or layers) of tissue with the aim of restoring normal function) or non-ablative methods. Ablative lasers visibly remove layers of skin which poses greater risk and recovery time.

## Vascular Lesion Removal

For laser vein removal, the blood within a blood vessel is heated and the resulting injury of the blood vessel wall makes it eventually disappear. This is how cosmetic lasers can be used to remove superficial blood vessels on the face e.g. in rosacea (a long-term skin condition that typically affects the face, resulting in redness, pimples, swelling, and small and superficial dilated blood vessels), leg veins and in skin treatments applied to many other areas of the body.

## Hair Removal

Laser hair removal is a treatment that uses a laser or IPL to remove unwanted hair. IPL (intermittent Pulsed Light) uses a wider range of wavelengths, so it is less focused and may require more treatment.

This laser heats and destroys hair follicles in the skin, disrupting hair growth. Common areas to treat are the face, legs, arms, underarms and bikini line. It can be helpful for women with hirsutism (excessive hair growth).

## Laser Scar Treatment

Laser scar treatment uses laser to reach deep into the skin's layers in order to break down the thick scar tissue present. Often ablative lasers can be used for this.

## Tattoo Removal

Cosmetic lasers can target tattoo ink pigment with a high intensity and focused light beam causing the ink to break up into smaller molecules. The ink is then naturally absorbed by the body, resulting in the potential fading of the tattoo.

## Pigmentation Treatment

Although, some types of pigmented lesions exist at birth, often new pigment can represent one of the first signs of aging. Lasers can be set to an optimal wavelength of light to remove pigmented lesions by targeting melanin. The laser treated lesion is then naturally removed by the skin's healing process.

## LED Therapy

Low-Level Light Therapy (LLLT) has numerous applications and the benefit depend on the wavelength of the light being absorbed. Differing wavelength of the light energy applied there are numerous reported benefit such as reducing inflammation, helping tissue repair and regeneration.

## Treatment/Procedure

There are many different varieties of lasers and the different energy levels and depths they penetrate to will vary according to each. Your practitioner will discuss with you which is suitable for your particular requirements and also how any results and recovery times might differ.

On the day, your skin will be cleaned and you will wear specially designed goggles to protect your eyes during the procedure.

Local anaesthetic injections are not necessary however you may have some topical numbing cream applied. The practitioner usually applies a cool gel or cooling air spray to the area of skin. The practitioner may then press a hand-held device to your skin and trigger the laser.

For Light-emitting diode (LED) therapy goggles are worn as you lie under the light source.

## Adverse effects

Cosmetic lasers treatments do come with some risks: risks for the laser operators and the patients undergoing therapy. As with any medical procedure, patients must be aware that they might experience certain complications which could be temporary or permanent. These could include:

- Prolonged redness of the skin
- Bleeding
- Discomfort and/or pain
- Tenderness
- Skin reddening
- Changes in skin's pigmentation / skin colour changes
- Scarring
- Burns or other injuries from the laser's heat
- Bacterial infections
- Triggering of cold sores if you suffer from them
- Incomplete treatment of the problem

**Tip:** For lesions or skin abnormalities that may be caused by sun damage, ensure your practitioner is competent and experienced to diagnose the lesion or that they refer you to a specialist before treatment before commencing any course of treatment.

**Tip:** Make sure you know the recovery time needed after your treatment with the laser being used

**Tip:** Make sure you know if a course of treatment is needed and that you are fully informed of the costs of the complete course costs before you agree to receive the treatment.

**Tip:** You should always have a patch test (a small testing area with the laser) prior to any treatment to ensure you do not have an adverse reaction to the lasers and to ensure that your treatment will be performed at safe and optimal settings.

**Tip:** Beware of clinics and practitioners advertising procedures on offer on a website at a reduced rate. Some clinics and practitioners do not have the appropriate training and devices required to treat you safely.

**Tip:** Ask if the device being used if is CE (European Conformity quality assurance kitemark) marked to confirm that it is in fact safe to use.

**Tip:** If you have a darker skin type you may be more at risk of burns and changes to pigmentation in your skin e.g. lighter or darker patches may appear on the skin which can be irreversible – we advise consulting with a GMC registered doctor prior to the commencement of any treatment under these circumstances.

**Tip:** Ensure that you carefully follow the pre and post care information that you are given (ensure these have been explained to you!) You will probably need to avoid sun exposure or use sunblock for several weeks following treatment.

## Restrictions

Lasers and light-based devices do not have advertising restrictions; however, statutory regulated professionals (such as doctors and nurses) consider that publicity promotions which are seen to entice the public, are unethical, and as such, contrary to their regulations. This standard is applied by the JCCP and CPSA.

The JCCP considers that it is best practice that you have a face to face consultation with a qualified practitioner before you commence any laser procedure. It is important to understand the risks that can occur in both the short and longer term with lasers and also how and who to contact if you have an adverse side effect following your treatment.

Some conditions require more than just laser treatments (e.g. scars resulting from burns or surgical wounds) and may require different forms of treatment. In these situations, it is advisable to consult with a GMC registered doctor.

## Cooling off period

The JCCP advises you to receive a consultation prior to commencing treatment and a cooling off period of two to five days before treatment actually commences. You should always remember that a patch test should be offered to you prior to the commencement of your initial treatment.

## About you

It is important to discuss details of the treatment you are about to receive when enquiring about laser treatments. Most ablative lasers are associated with longer recovery times e.g. 1 to 2 weeks resulting in immediate redness and crusting of the skin surface in the area treated. This can have a negative psychological impact in the short term before the longer-term potential benefits are fully realised. Be sure you know what the recovery time is and tailor your diary to your needs.