Laser Skin Therapy
激光皮膚治療

Introduction

The word laser stands for “Light Amplification by Stimulated Emission of Radiation”. Laser is a concentrated beam of light, created when electric current passes through a special material. The types of laser depend on the specific material used. Intense pulse light (IPL) is a form of intense light of multiple wavelengths. The effect of laser depends on Selective photothermolysis of specific targets of the type of laser. This can be targeted to vascular lesion, pigmented lesion or water vaporization of tissue.

Indications

In general Laser skin therapy will be indicated for

1. Vascular lesion
2. Pigmented lesion
3. Ablative laser to remove superficial lesions
    - Vaporization destruction of superficial lesions using CO2 laser to removal excessive tissue on the skin surface e.g. keratosis, pigmented moles, warts and scars and resurfacing of skin.

Laser energy is absorbed by tissue of variable degree depending on the type of laser and specific wavelength of light used. This will produce selective destruction of specific targets within the skin with minimal damage to surrounding tissue. Laser for vascular lesion target at the haemoglobin, leading to thrombosis and sealing of blood vessels and hence reduction of pigmentation. In some condition it can also be used to reduce bleeding complications. Examples are pulse dye lasers e.g. Vbeam laser.

Laser for pigmented lesion target at the melanocytes with destruction of pigmented cells and hence reduction of pigmentation on skin. E.g. brown or black birthmarks, freckles, café-au-lait birth marks. Examples are Nd Yag, Ruby, Alexandrite laser. IPL are specific light sources that can reduce pigmentation of skin.

Please discuss with your doctor the appropriate type of laser to be used for your specific skin and pigmentation condition.

Before Treatment

- Avoid excessive sun tanning before procedure.
- Area to be treated will usually be treated with local anaesthetic cream (EMLA). Other form of anaesthesia such as local anaesthetic injection, monitored anesthesia or general anaesthesia may be indicated in selected cases.
- Doctor may prescribe antiviral agents and /or antibiotics if you have history of herpes infection.

Treatment Precaution

- Wear protective eye shield or cornea shield as instructed. Avoid looking at the laser beam
- Most lasers have built-in mechanism to produce some form of cooling to the skin surface.
- During treatment, you may feel mild pain or burning on the treatment area. If you feel excessive discomfort or pain, you should inform your doctor.

After care

- Depending on the type of laser used, some skin changes may occur.
- Pulse dye laser for vascular lesion usually appear purple red after laser treatment. This will resolve in one to 2 weeks' time.
- For CO2 laser, the treated area will be red and feel warm. the surface will be raw as a result of the superficial ablation. It may be covered with ointment or dressing. Healing takes 7 – 10 days leaving the new skin red or pink. The amount of time for skin surface to recover is directly related to the level of therapy given. The redness will fade after 2-6 months.
- Avoid sun exposure and apply sunscreen.
- Apply antibiotic ointment of soothing aqueous agents on surface

Risks and complications

- Mild swelling and burning sensation is not uncommon after treatment.
- Itching may occur especially during healing phase after treatment.
- Pigmentation issues
    - Hypopigmentation and hyperpigmentation may occur in early phase depending on the types of laser used and is usually transient in one to 2 weeks. In some cases the transient effect may last longer but it will resolve with time.
    - Persistent hyperpigmentation or hypopigmentation may occur in a minority of patients. The doctor may have a test laser to check your response and fitness for further laser treatment.
- Infection is uncommon but if occur may lead to scar formation. Ablative laser may cause

skin abrasion. Infection cause deepening of skin damage and scar formation.

- Bumps due to obstruction of sweat glands are uncommon complications.
- Scarring is rare but the risk may rise if infection occurs or in patients with hypertrophic scar or keloid tendency.
- Cold sores (herpes) may be reactivated and patient will be given antiviral agents if known before.
- Thermal burn is uncommon. Excessive pain will occur and you should consult your doctor for assessment. Scarring and pigmentation changes may occur.

Follow Up

- The procedure is usually done on day basis and you will be discharged home on the same day of treatment.
- Pain is usually minimal and you can take pain medication if necessary.
- Follow the instruction on wound care over the treatment site, good hygiene care and avoidance of sun exposure.
- Follow up in outpatient clinic to review the results and need of repeated treatment.

Remarks

This is general information only and the list of complications is not exhaustive. Other unforeseen complications may occasionally occur. In special patient groups, the actual risk may be different. For further information please contact your doctor.