

Introduction

LASER (Light Amplification by Stimulated Emission of Radiation) is a concentrated beam of light, created when electric current passes through a special material. The type of laser depends 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. In general Laser skin therapy is indicated for:

1. Vascular lesion
2. Pigmented lesion
3. Ablative laser / Vaporization destruction of superficial lesions using CO2 laser e.g. keratosis, pigmented moles, warts and scars and resurfacing of skin.

The Operation / Procedure

Laser energy is absorbed by tissue in 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 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 (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.

Preoperative Preparation

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

Postoperative Care

1. Depending on the type of laser used, some skin changes may occur.
2. Vascular lesion usually appear purple red after Pulse dye laser treatment. This will resolve in 1 to 2 weeks.
3. Area treated by CO2 laser will be red and 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 The redness will fade after 2-6 months. The amount of time for skin surface to recover is directly related to the level of therapy given.
4. Avoid sun exposure and apply sunscreen.
5. Apply antibiotic ointment and soothing aqueous agents on surface.

Common Risks and Complications (not all possible complications are listed)

1. Mild swelling and burning sensation is not uncommon after treatment.
2. Itching may occur especially during healing phase after treatment.
3. Pigmentation changes (hypopigmentation and hyperpigmentation)
 - a. Transient changes may occur for 1 to 2 weeks depending on the types of laser used.
 - b. Persistent changes may occur in a minority of patients. The doctor may have a test laser to check your response and fitness for further laser treatment.
4. Infection is uncommon but if occurs may lead to scar formation. Ablative laser may cause skin abrasion. Infection causes deepening of skin damage and scar formation.
5. Bumps due to obstruction of sweat glands are uncommon complications.
6. Scarring is rare but the risk may rise if infection occurs or in patients with hypertrophic scar or keloid tendency.
7. Cold sores (herpes) may be reactivated and patient will be given antiviral agents if **doctor informed**.
8. Thermal burn is uncommon. Excessive pain will occur and you should consult your doctor for assessment. Scarring and pigmentation changes may occur.

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. Evangel Hospital reserves the right to amend this leaflet without prior notice. We welcome suggestions or enquiries on the information provided in this leaflet. Please contact our Healthcare professionals so that we could follow up and make improvement.

Reference

Hospital Authority: "Laser Skin Therapy"(2020)
"Smart Patient" http://www.ekg.org.hk/pilic/public/surgery_pilic/plasticsurg_laserskintherapy_0243_eng.pdf (06-07-2023)