



## Lasers and Intense Pulsed Light (IPL) Sources Used for Cosmetic Purposes

**Lasers and Intense Pulsed Light sources (IPLs) devices used for cosmetic purposes can cause serious health effects such as burns, scarring and eye damage.**

### Introduction

Lasers and Intense Pulsed Light sources (IPLs) are devices used for a range of cosmetic purposes such as:

- removing hair, tattoos, birthmarks and various skin lesions, cellulite, acne and acne scarring
- reducing the visibility of blood vessels and skin pigmentations
- rejuvenating the skin
- reducing the appearance of fat.

### How do they work?

#### Lasers

Lasers work by producing a beam of light that is monochromatic (has a single wavelength). The beam of light produced can be focused on the specific area being treated. The laser beam selectively damages specific targets in the area being treated (e.g. capillaries, brown spots or tattoo pigment in the skin) allowing the area to be replaced by new cells or removed altogether—depending on the desired treatment.

Lasers are classified according to the Australian/New Zealand Standard 2211.1 AS/NZS 2211.1:2004 *Safety of Laser Products Part 1: Equipment classification, requirements and user's guide*. Lasers used for cosmetic purposes are typically Class 3B and Class 4 which means that measures must be taken to ensure they are used safely.

#### Intense Pulsed Light Sources (IPLs)

As the name suggests, IPLs work by producing intense pulsed light. White light produced by the machine is filtered and manipulated to make its effects more specific. The light is, however, not as targeted and



specific as with lasers. Therefore it produces more generalised effects on the skin, such as improvement in some forms of brown and red discolouration. Because of this reduced specificity, compared with lasers, it is sometimes impossible to produce only one effect on the skin thereby producing either side-effects or undesired side-effects.

#### After Effects

How you appear after a treatment will depend on the type of treatment performed, all of which should be explained to you beforehand. Some treatments (such as IPL for photo rejuvenation) may produce some mild, temporary redness, and darkening and then flaking-off of freckles. Others, such as laser treatments for some birthmarks, may produce intense bruising and swelling. Still others, such as treatments for acne scarring, may produce intense swelling and redness with perhaps pinpoint bleeding and oozing. If your experience is not as described to you prior to the procedure, you should contact the treatment facility.

## Health Risks

Lasers and IPLs used for cosmetic purposes are hazardous. There have been reported cases where patients/clients have received an injury following a cosmetic procedure using a laser or IPL. Reported injuries have included burns, blistering, scarring, keloids (thickened, overgrown scars), increased or decreased skin pigmentation and eye damage (damage to the retina (back) or uvea (front) of the eye).

The causes of such injuries include:

- use of a laser/IPL by an untrained operator
- inappropriate use of a laser/IPL e.g. the wrong type of device/settings for a treatment or the wrong type of device is used on a specific skin type/hair colour
- contraindications/medications that may make skin more sensitive to light therapies not considered or not disclosed by the client/patient (including recent sun exposure)
- safety procedures are not followed (e.g. use of protective eyewear)
- equipment malfunction.

Before undergoing treatment, you should ask the operator what kind of training and experience they have had. If your treatment is not being performed by a doctor, in some instances, it is recommended that you consider seeing a general practitioner or dermatologist before having IPL or laser treatment. You should seek medical advice if you:

- are pregnant
- are taking medication
- have pre-existing medical conditions (skin disorders (including acne) or allergies)
- have any skin spots, moles or lesions in the area to be treated, whether or not these are the reason for the contemplated treatment.

Always ask the operator who you should contact in the event of a concern. This will usually be the doctor undertaking or prescribing/supervising your treatment if it is performed in a medical setting, however if done in a beauty salon, there should be arrangements in place for you to be referred to a doctor familiar with the treatment you have received.