Cosmetic treatments and beauty therapy using lasers, intense pulsed light (IPL) devices and high-powered light-emitting diodes (LEDs)

Advice for consumers

Thinking of undergoing a cosmetic treatment from laser, intense pulse light devices (IPL), or high-powered LED phototherapy? There are currently no Australia-wide requirements on who may deliver cosmetic treatments using lasers, IPLs and LEDs. When choosing a service provider make sure you do your due diligence. Put simply, this means you should take the time to consider the treatment you want and inform yourself about the risks involved. Your treatment provider should be focused on delivering your desired outcome in a safe manner. Cosmetic treatments deeper than the skin, like laser liposuction, should only be conducted by registered medical practitioners.

Ensure your skin blemishes or moles are examined by a doctor before seeking any treatment using these devices if the procedure is not being performed or supervised by a registered medical practitioner. If you feel that the treatment is causing you any unexpected pain or discomfort ask the treatment provider to stop the treatment immediately, and consult a medical professional.
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1. **What is a cosmetic treatment?**

A cosmetic treatment focuses on enhancing your appearance. Cosmetic procedures can be surgical or non-surgical and include treatments like facial surgery, body contouring, skin therapies and injectables such as Botox and fillers. With few exceptions, when lasers, IPLs and LED phototherapy are used to deliver cosmetic treatments, the procedure is non-surgical. Typical procedures include hair removal, scar and blemish reduction, skin rejuvenation and tattoo removal and acne treatment. In these procedures, the treatment is confined to various layers of the skin depending on the outcome desired. Other procedures such as laser liposuction (fat reduction) and LED photodynamic therapy (phototherapy incorporating the use of skin sensitising medication) are considered surgical cosmetic procedures and should only be performed by qualified registered medical practitioners.

2. **How do lasers, IPLs and LEDs provide treatment outcomes and what are the risks?**

The use of lasers, IPLs and LED phototherapy for cosmetic purposes falls under the group of procedures known as light-based treatments. Light-based treatments using lasers and IPLs for non-surgical procedures rely on targeting specific chemicals in the skin, known as chromophores, to achieve the desired treatment outcome. In a cosmetic context, chromophores are pigments that give your hair and skin their characteristic colour. During laser and IPL treatments, these chromophores absorb the emitted light and are either destroyed or damaged in the process and reabsorbed by the body or shed from the skin’s surface. The body’s natural healing processes then take over to repair the damage. The treatment outcome is achieved through either the regeneration of new healthy skin tissue or the destruction of hair follicles, pigmented blemishes or thread veins. Conversely, LED phototherapy may have an effect on chromophores, but it mainly claims to stimulate accelerated cell growth or kill skin surface bacteria depending on the colour of the light used.

Lasers are able to deliver a highly focused beam of light containing only the narrow energy spectrum required for the desired treatment outcome. IPLs deliver a wide spectrum of light energy over a comparatively large area on the skin. Due to the wider range of energies delivered, IPLs can also generate and deliver significant levels of unwanted heat energy to the skin so care must be taken to cool the treated skin. IPLs are more commonly used for general procedures in the superficial (upper layers) layers of the skin. Lasers can deliver more specific outcomes and are better suited for targeted superficial treatments and deeper skin treatments, due to their specialised properties.

An incorrectly performed treatment may result in the damage caused by the light being more extensive or beyond the body’s natural ability to heal. This may lead to permanent damage such as persistent pigment changes and scarring. All forms of light-based therapy are hazardous to the eyes. Unsaferly performed treatments without adequate eye protection may lead to eye injuries ranging from a temporary dazzle effect to permanent eye damage or blindness, especially when treatment is near the eye.

3. **What procedures are performed using lasers, IPLs and LEDs?**

Lasers are used for a wide range of cosmetic applications. These include superficial treatments such as hair removal, and scar and blemish reduction. They are also used for deeper skin procedures such as skin rejuvenation, skin resurfacing and tattoo removal. IPLs are generally used for superficial treatments and are only recommended for use for hair and sun-induced skin blemish removal or photo rejuvenation of the skin. The use of a laser for cosmetic treatments deeper than the skin is considered to be a surgical procedure and should only be conducted by registered medical practitioners. LED phototherapy is used to
kill surface bacteria responsible for acne outbreaks or to stimulate cell growth to promote skin rejuvenation.

Your treatment outcomes are highly dependent on physical traits you have, in particular hair colour and skin colour. Depending on these traits or a combination of these traits, treatment using light-based cosmetic procedures can be completely ineffective, only partially effective or carry a much larger risk of causing you injury. Your cosmetic service provider should advise you on the appropriate procedure to deliver your desired outcome. They should also inform you about alternative therapies or advise you if light-based treatments are not appropriate due to the unsuitability of your hair or skin type or the risk of injury involved.

4. **Who can provide light-based cosmetic treatment services?**

There are no Australia-wide requirements on who may deliver cosmetic treatments using lasers, IPLs and LED phototherapy. Currently, there are laws that restrict the delivery of some of these light-based cosmetic services in Tasmania, Queensland and Western Australia. Service providers in these states must maintain a licence with their state regulator in order to perform light-based cosmetic procedures. These restrictions are based on qualifications and/or levels of training and competency.

The requirements in each of these states are not the same. The most notable difference in the legal requirements is that IPLs are only licensed in Tasmania. Lasers are regulated in all three states. In the other states and territories of Australia, there are no regulatory frameworks in place or specific requirements for service providers performing light-based therapies. There are no restrictions for the delivery of LED phototherapy in Australia.

5. **How do I know a treatment provider is reputable?**

It is important that you are careful when choosing a service provider to deliver your desired treatment outcomes in a safe manner.

In the states where regulations are in place, having to meet licencing requirements to deliver these services may improve safety but is not an automatic guarantee that a service provider will not cause an injury. There are many aspects of service delivery that lead to successful and, most importantly, safe outcomes if you are seeking cosmetic treatments.

Treatment providers should conduct their business on premises specifically dedicated for the purposes of delivering these treatments. Look for any training or qualification certificates and, if applicable, licences. These should be displayed in plain view and reflect the competencies of the specific person delivering the service.

Consumers often use online forums, a mixture of business reviews and other online platforms to make decisions on whether to go ahead with purchases of goods or services. These reviews can be helpful in deciding on service providers for laser and IPL cosmetic services. However, you should be aware that these reviews are based on personal experiences that may look at other factors that are not related to safety in providing cosmetic treatments (e.g. costs and convenience, whether it is a paid review, or written by a person with a specific interest).
6. **What should I expect from a treatment provider?**

A treatment provider should be focused on delivering your desired outcome in a safe manner. Before any treatments commence, the treatment provider should hold a consultation with you to discuss the specific nature of the treatments recommended. During the consultation, the treatment provider should gain some important lifestyle information from you and present some information about treatment to assist you in making your decision about undergoing treatments. Important topics include:

- a discussion about your previous medical history, medications taken and lifestyle with respect to exposure to sunlight
- the type of treatment or modality (laser, IPL, or phototherapy) to be applied to achieve the treatment outcome
- an explanation of what to expect during and after the treatment, including any downtime or recovery period
- an explanation of the importance of personal hygiene after the procedure to prevent infection in treatments where the skin barrier is broken
- an explanation of possible benefits, side effects and risks associated with the treatment
- any post-treatment care needed to assist in achieving the treatment outcome.

The discussion should help you understand the benefits and risks of the procedures and assist you in giving informed consent to proceed. You should give your consent by signing a document from the treatment provider containing the outlined information.

Your treatment provider should also perform a ‘patch test’ before the full treatment is applied. This simply means that the first ‘zap’ from the laser or IPL is done on the intended treatment area, usually and, if possible, on a location that is less conspicuous. This will give both you and the treatment provider an indication of the effect of treatment on that area. This test should always be done on the day of treatment and for each repeat session as the skin may react differently on any given day. If undesired outcomes occur, the treatment should not go forward as planned. Your treatment provider should revise the treatment plan, explore alternative approaches, or not proceed with treatment at all.

7. **What information should I provide about myself to a service provider?**

It is important that you give clear information to your service provider about some important lifestyle choices, medical conditions and other health related concerns before you undergo any treatment. For example:

- you should declare any medications or supplements that you are taking, including prescription, non-prescription and commercial or herbal supplements. Any of these substances may negatively affect your reaction to the laser or IPL treatment due to an increased sensitivity to light or a poorer ability to heal
- application of fake tans or melanotan injections may also affect your reaction. The factors affecting your reaction will vary from treatment to treatment
- it is very important to declare if you are photosensitive (sensitive to light) or have issues with flashing lights. For example, if you have been diagnosed with conditions such as lupus, epilepsy, eczema, psoriasis or bacterial infections, treatment may not be advised or even possible
- pregnancy and breastfeeding may affect your reaction to treatment due to changes in hormone levels.
Negative reactions to treatment can expose you to dangerous health outcomes, some of which may be permanent. For these reasons, it is important to tell your service provider everything you know about the area that you wish to have treated. Sometimes these negative reactions are mentioned as ‘contraindications’ to treatment in the information given by a service provider.

8. Should I have a medical check-up before having any cosmetic treatment?

Before undergoing any cosmetic light-based treatments not being performed or supervised by a registered medical practitioner, have any skin blemishes or moles examined by a medical professional. This is very important because these skin blemishes or moles may be symptoms of other health issues or treatment could adversely change the nature of the blemish. Light-based treatments may aggravate the underlying health condition or may also remove or disguise the symptoms of serious skin diseases such as melanomas. In this instance, the treatment of the symptoms may make the diagnosis of the underlying health condition very difficult, or even impossible. This may lead to delays in treatment, and depending on the condition, result in potentially serious or terminal health outcomes. A medical check-up may also reveal any other health condition where light-based therapies are not advised.

You should provide a report of a skin examination and any other conditions that may lead to negative reactions to a treatment to your provider before agreeing to any light-based treatment. This report is not relevant in the long-term as your skin and health are constantly changing. You will need a new report at least once a year or if there are any major changes to your skin, health or medications. A skin examination does not guarantee that you will not have negative reactions or a poor treatment outcome. These can still occur in certain circumstances, for instance, if there was recent undisclosed sun exposure.

9. What should I do if the treatment results in an injury?

It is common to feel some discomfort when undergoing these light-based treatments. Your treatment provider will explain if the discomfort you are experiencing is normal or not. However, if you feel that the laser or IPL treatment is causing you any unexpected pain or significant discomfort you should insist the treatment provider stops the treatment immediately.

Expected side effects include:

- mild redness and warmth to the treatment area
- swelling of the hair follicle following hair reduction treatments
- tingling and/or itchiness of the skin lasting up to several days following hair reduction treatments
- a temporary increase in hair growth and hair regrowth that is finer and lighter following hair reduction treatments
- initial darkening of pigmented spots following skin colour adjustment treatments
- mild swelling and/or bruising following skin colour adjustment or capillary reduction procedures.

These side effects should generally subside within 24 hours following treatment. However, some effects may last longer. For example, darkening of spots may last a week on the face and longer on the body. Swelling varies greatly among individuals and may last a few to several days and be more severe for some individuals.
Adverse treatment reactions can include:

- blistering or burns to the skin. This can result in scarring or undesirable changes to the colour or pigmentation of the skin
- eye damage (if appropriate eye protection such as safety goggles are not used)
- triggering of infections such as cold sores, acne outbreaks, etc.
- other unexpected treatment outcomes such as allergic reactions or seizures.

In rare cases, usually when the correct treatment and safety protocols have not been followed, burns and permanent changes to the colour of your skin around the treatment area are possible. These changes are known as hyperpigmentation (where patches of skin become darker than the normal surrounding skin) and hypopigmentation (where the skin loses its colour and becomes paler than the normal surrounding skin).

If you have any symptoms that were not explained to you during your initial consultation as normal side effects or any sudden unexpected or severe reactions during or after the treatment, you should discontinue the treatment or treatment program and consult a medical professional as soon as possible. You should report these adverse reactions to your state or territory Health Complaints Commissioner. You can also report any injuries to the Australian Competition and Consumer Commission (ACCC).