

## Laser vs IPL

### Do You Know the Difference

The healing properties of light have been recognized for thousands of years. Both the Greeks and the Romans both understood that sunlight could play some remedial role. As early as 1903 scientists realized that light could be used for therapeutic treatment. In 1917 Albert Einstein theorized on the stimulated emission of radiation or what we commonly refer to as lasers. Today lasers are used in a multitude of products and systems from CD players to barcode scanners. Laser is an acronym for Light Amplification for the Stimulated Emission of Radiation & is used in the beauty industry for an array of treatments ranging from the correction of skin irregularities, pigmentation and wrinkles to hair reduction.

Pulsed-light machines and lasers basically work in the same way. Put simply a wavelength is selected that is readily absorbed by the target tissue. Both aim to heat the target to a temperature high enough to destroy it without damaging the adjacent normal tissue. The difference between the two is that a laser emits a single frequency of light that is coherent. All the light waves are going in the same direction, allowing the target tissue to absorb the maximum amount of heat. The target tissue is all important when treating skin problems with a laser. The target tissue for pigmentation is melanin, for spider veins it is blood and for wrinkles water. Each of these target tissues absorbs a different wavelength of light, meaning a different laser is needed for each specific problem.

Unlike lasers, IPL devices produce a broad spectrum of light in a range of wavelengths. The emitted light is further adjustable through the use of filters, allowing any skin colour to be treated. This versatility allows the characteristics of light energy to be adjusted according to each patient's skin type, specific condition and location of the condition on the body.

Another difference is in the area that can be treated in one session and the treatment speed. Generally IPL treatment heads are up to eight times larger than the small spot produced by lasers and therefore treatments are much quicker.

In terms of safety, the two types are similar, but with lasers both the practitioner & the patient need to use eye protection. The light from IPL may be unpleasant but is not harmful or dangerous to eyes.

While lasers and IPL treat many of the same conditions, IPL is a single technology for a multitude of applications, from unsightly veins & birthmarks to ageing and sun damaged skin, unwanted hair and rosacea.