

Michelle Dickson investigates the difference between lasers and intense pulsed light treatments for such skin aging problems as pigmentation, veins, unwanted hair, and enlarged pores.

Using Light Energy for Rejuvenation

Laser is an acronym for Light Amplification for the Stimulated Emission of Radiation. The father of lasers was Einstein who theorized on the stimulated emission of radiation in 1917. In more modern times lasers have been used to treat such skin irregularities as pigmentation, vascular lesions, fine lines and wrinkles, rough texture, and unwanted hair.

Recently there has been a newcomer on the scene. It's called Intense Pulsed Light (IPL) and while still using light energy that is transformed into heat energy to treat specific problems, it reports to be different from the laser.

Laser light travels in a synchronized fashion, it retains its intensity over a long distance, it is monochromatic (meaning of the same wavelength/color) and it can be pulsed. Because it is monochromatic, the target tissue will absorb the maximum amount of heat while the surrounding tissues won't. The target tissue is all-important when treating skin problems with a laser. The target tissue for pigmentation for instance is melanin, for spider veins it is blood and for wrinkles it is water. Each of these target tissues absorbs a different wavelength of light meaning a different laser is needed for each specific problem.

Unlike conventional 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 and computer-controlled parameters of energy delivery allowing any color skin to be treated. This versatility allows the characteristics of the light energy to be adjusted according to each patient's skin type, specific condition, and location of the condition on the body.

IPL technology is based on the same principle as laser. Simply put, a wavelength is selected that is highly absorbed by the target tissue, e.g., blood, water, melanin, but not by the surrounding tissue. The objective is to heat the target to a temperature high enough to destroy it without damaging the adjacent normal tissue. Because IPL technology is based on a broad-spectrum of light, many target tissues are treated in the one session.

Harnessing light as an energy source to heat and treat skin problems is the basis of both laser and IPL technologies. The difference being IPL is non-ablative, uses one device to treat a range of problems and requires no downtime but in turn, requires multiple treatments.

The History of IPL

Intense pulsed light technology is almost nine years old yet it wasn't until quite recently that it has been used to treat several skin problems simultaneously. California dermatologist Patrick Bitter, Jr., MD, developed the FotoFacial® using IPL. He explains:

"When I treated a whole face with IPL I would get a result that, as a dermatologist, I couldn't get with any other technology. It was such a different result that I gave it a name and developed the protocol to treat the skin – the FotoFacial®.

"The beauty is it can be used anywhere on the body. I think it's the best treatment for sun damage on the face as well on the chest, neck, back of hands and legs." **AAACSM**

What can IPL Treat

- Redness and broken capillaries
- Complexion flaws and poor skin tone
- Fine lines
- Age spots and areas of skin discoloration
- Large pores
- Unwanted hair
- Acne and acne scarring