

LED VS. LASER

on June 20, 2013 | 9 Comments

The discussion of LED vs Laser is a hot topic with varying opinions and varying scientific references. In the mind of the consumer however, the ultimate truth behind this topic isn't defined by power output, nor wavelength, nor number of LED's or laser diodes, it's a simple number that is measured in inches and called RESULTS! It is therefore with this perspective that our team has looked to offer its assessment of these two technologies.



NEW TECHNOLOGY?

LED technology is newer to the body contouring and inch loss market however it is by no means new technology. The first LED's can be traced back as far as 1927, with the first practical application within the visible spectrum occurring in 1962. Since then, LED development has undergone several advances in materials, synthetics, packaging and overall design improving its performance and longevity primarily in lighting applications, while lowering production costs. With lower production costs, device manufacturers are now exploring opportunities to use this lighting source in other applications.

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What is the best inch-loss technology on the market

With increasing growth and revenue potential in the esthetic market, this industry has not gone unnoticed to manufacturers and so engineers are exploring a variety of solutions in the hopes of carving out a piece of this very attractive pie. Is LED that Holy Grail? Technologies including Lipo Light (or Lipo-light) manufactured by Innovate Photonics in the U.K. and the Vevazz by Slim Line – a private label LED contra manufactured device out of China – are recent technologies to hit the North American market offering LED for body contouring. Both of these devices solely use LED's and market as FDA approved CLASS 1 body contouring devices. To provide additional context on CLASS 1 FDA rating, this grouping includes virtually all LED lights including Christmas lights, car lights, and those beautiful sun-powered lights you decorate your backyard with. I guess the argument can be made that after that delicious Christmas dinner, just stand close to your Christmas tree and watch your waistline virtually disappear?

LED (INCOHERENT) VS LASER (COHERENT)

The most prevalent and relevant discussion surrounding LED's vs. Lasers involves incoherent light vs. coherent light. LED's can now be manufactured within similar power and wavelength parameters as laser light and so marketers are using this small resemblance to argue that LED's and Lasers are equivalent technologies. Truth be told, they are about as close to being twins as Danny DeVito and Arnold Schwarzenegger were in the movie "Twins". The key difference between these two light sources is that lasers emit light coherently wherein LED's emit light incoherently. Coherent light (laser energy) simply means that the light energy is focused and as a result there is minimal loss of energy along the beam and the target area receives virtually all the light energy being delivered from the source. LED's on the other hand offer incoherent light and so the energy is effectively un-targeted and dispersed. In relation to body contouring, this means that with LED's there is a beautiful light show on the surface of the skin, however there is minimal penetration down through the subcutaneous layer and ultimately to the adipose cell. This is not even taking into account the energy lost by reflection of LED light off the skin, nor the high absorption of energy by the skin due to such a scattered (incoherent) light pattern. This is where lasers offer a less spectacular on-skin display preferring to deliver their focused and targeted energy directly to the adipose or fat cell site. It is this necessary power delivery that activates the fat cell to release its fat content (triglycerides), resulting in inch-loss. In it's simplest form, the process of inch-loss and body contouring hinges on this

today?

Laser Diode (59%, 87 Votes)



LED (14%, 21 Votes)



Radio Frequency (10%, 15 Votes)



Ultrasound (10%, 14 Votes)

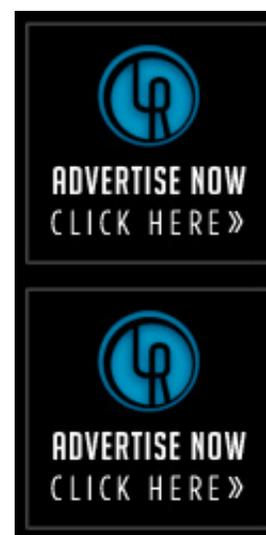


Infrared (7%, 10 Votes)



Total Voters: 147

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delivery of energy to the fat cell, and if the technology cannot offer this, then results cannot be obtained. A beautiful light show yes. Inches lost no.

Clearly it was with the above in mind that the scientists and engineers of the FDA have recognized the “REAL PLAYERS” of the inch loss and body contouring market as class III medical devices. The very classification as a Class III device requires clinical testing and proof of results wherein Class I devices do not require any clinical testing nor proof of results. If the point is to address inch loss, body contouring, measurable results and satisfied customers, then it is our educated and experienced opinion that professionals and consumers alike keep to the pillars of this industry which are (for good reason) labeled Lipo **LASERS**.

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