

# Lakewood Ranch Hair Removal Center

## How does Laser Hair Removal work?

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**LASER** is really an acronym for Light Amplification by Stimulated Emission of Radiation. Albert Einstein and Max Plank were the first to propose the principle of stimulated emission.

**History:** Laser hair removal began in the early 1960's. It was accidentally learned that the hair did not grow back on areas that a (ruby) laser was used to remove tattoos.

**Light:** Light is the area of electromagnetic spectrum. That is what we see as color with our eyes. Visible light is seen at 390-770 nanometers (one billionth of a meter). A laser that performs hair removal operates within this range.

Laser is a beam of light which varies pending on the wavelength. The lasers that remove hair "seeks out" a chromophore which is melanin (pigment). This is known as selective photothermolysis. Melanin is what gives us the color of our hair and skin. Once the light has found the melanin, enough heat is produced to destroy the hair root (dermal papilla) and hair germ cells. The follicle becomes smaller and continues to miniaturize until it becomes a fibrous tract or fine blond hair or light hair that no longer responds to the laser light.

Lasers have mediums. They can be solid, liquids, gases or semi-conductors i.e. Argon, Carbon Dioxide, ND-YAG, Alexandrite, Copper, Ruby etc. Each of these mediums emit a different wavelength that cause a different effect upon human tissue and determines the target chromophore. An example would be a Carbon Dioxide Laser has the ability to ablate the epidermis and resurfaces the skin also known as laser resurfacing.

There are several agencies that are concerned with laser safety issues. They are American National Standards Institute (ANSI), Center for Devices & Radiological Health (CDRH), OSHA, state and local requirements. There are four designated laser safety areas. They are the facility, equipment, personnel and patient.

FDA defines Laser Hair Removal as: "Long-term stable reduction in the number of hairs regrowing after a treatment regime".

## **Consultation:**

First of all the client can not have blond, gray or red hair, as these hairs do not have melanin in them and the laser will not be able to “seek out” the chromophore.

Secondly, the Certified Medical Electrologist (CME) will need to ask questions regarding your tanning history, how your skin reacts to sun and ethnicity. So the CME can type your skin. This is important because they need to determine what wavelength is appropriate for your skin.

**Your First Visit:** A medical history is important and required by the State of Florida. The medical history should include allergies, medications, skin disorders, diseases, chronic problems, etc. Once the medical history, consent form, skin typing, interview, education, question & answers are completed, the Medical Director reviews the chart and signs it. Consent forms are required by some insurance carriers and laser manufacturing companies.

**Education:** It is important to educate a client so they will understand the importance of following a treatment protocol. The hair has three stages of growth, anagen (beginning stage), catogen (degeneration), & telogen (resting). The anagen stage is the most important with hair removal because the hairs must be at this stage in order for the laser to work. Your hair grows back every 6-13 weeks and 10% of your hair sheds on a daily basis. When you come for your laser treatment and those hairs that were not at the anagen stage they will grow back. If you come every 6 weeks, eventually the laser will pick out those hairs that were not at the right stage previously. Hair has three causes of growth congenital (those predetermined by genetics), systemic from the endocrine system i.e. diabetes insipidus, Cushings Syndrome , any type of hormonal disorder, and topical (friction from a cast on an arm may cause increased hair growth).

It is also important to educate the client not to tweeze, wax, thread, or use sugaring methods. When one uses these methods the hair is being pulled out of the follicle. This then sends an increased blood supply (increases nourishment) to the follicle and your body tries to “heal” that area. Throughout time because of the increased blood supply this causes the hair to grow in thicker, coarser and darker. It is best to use shaving or clipping methods to remove the hairs between treatments. If the client has tweezed, etc. that hair will not grow back for another 6 weeks and the laser will miss that hair until it starts at the anagen stage.

Finally, another critical area to mention is that every body is different thus, reacts/responds individually to the laser treatment. It would be unfair for the CME to give you an exact number of treatments one would require. The average number of treatments is between 6 & 8. There are many variables here are some examples: skin type, area to be treated, hair texture (fine or course), hair depth i.e. a large women's underarm hair follicle will be much deeper than a thin woman, sun exposure, pain tolerance, number of treatments, client's response, wavelength of laser, hormones, medications, diet, stress, diseases, etc.

**Your Second Visit:** Once the physician has reviewed your medical history a test spot can be done. A test spot is a "sampling" of the laser using different fluences (power or energy). Typically there will be three different fluences. The test spot should be done at an inconspicuous area so if there are any adverse reactions it will not be exposed. Ten to twenty minutes should pass after the test spot is done to visually inspect the area. Then you wait another 1-2 weeks after to see if there are any changes with the skin. After 1-2 weeks and no skin discolorations you may start full treatment sessions.

**Your Third Visit:** The CME can do a full treatment session with the appropriate fluence that has been determined by the test spot.

## **Frequently Asked Questions:**

### **What will the laser feel like on my skin?**

Most clients refer the sensation to a pin prick or a rubber band snapped onto them. Our laser has a cooling agent to help alleviate this feeling.

Note: Some body parts are more sensitive than others. The following are the most sensitive parts of the body (in order) lips, face, neck, hands, feet, fingertips and tongue.

### **How much time will a treatment take?**

This will vary depending on the body part. Some examples are underarms or bikini-15 to 20 minutes, upper lip or chin-10 minutes, and full legs-90 to 120 minutes.

### **How many treatments will be needed?**

It is necessary to treat the area several times. Hair responds to laser only at the anagen stage. If too much time lapses, that hair will have to cycle through the other stages before the laser can "kill" the follicle. The average is 6-8 treatments with 4-6 weeks between each treatment. 4-5 sessions will be necessary to achieve 60-100% hair reduction. Lighter colored hair and finer hair may take longer.

**What results can be expected immediately following treatment?**

Typically, no change is seen, possibly red marks or whiteheads, which clear up in a couple of days. 2-3 treatments may be given before a reduction is obvious. 1-3 weeks before the hair will fall out. You may notice not shaving as often, less hairs in areas and finer, lighter colored hairs.

**Is the treatment permanent?**

Some clients will experience a marked reduction of hair after 4 treatments, others may only realize a reduction in the frequency with which they shave or tweeze. All clients will have some regrowth, however the hair that grows back tends to be finer, softer, lighter in color and more sparse.

**Are there side effects?**

Temporary redness, swelling and pain like that of a mild sunburn are common. Other conditions are crusting, pigment changes, whiteheads, and blistering. This is the purpose of performing test spots.

**Do any medical conditions preclude treatment by a laser?**

Yes, Pregnancy, nursing, skin infections, diabetes, chronic heart, lung, liver or kidney disease.

There are some relative contraindications that are looked at on an individual basis, active herpes infections, shingles, open areas of skin, rash, sunburn, autoimmune disease, and diseases which cause immunosuppression, seizure disorders, photosensitivity, chemical peels or laser resurfacing and some medications.

Persons on aspirin therapy, iron supplements, anti-coagulants, ginkgo and garlic ginseng may bruise more easily.