

# Laser Hair Removal

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Laser hair removal has recently received a lot of attention in the lay press. There have been regular and repeated advertisements creating a hype about these treatments. With increasing awareness and consciousness about “looking and feeling good”, women of all ages desire to have a hairless skin. It is therefore important that a prospective patient has proper and full information about laser hair removal.

### **Reasons for excessive hairs (hirsutism):**

**It is important to note that all women have fine brown hairs called vellus hairs. These do not cause any cosmetic disability. Under certain situations, these vellus hairs get converted in to black, thick terminal hairs which cause much embarrassment to a woman.**

### **Causes**

- a) For most people, this is due to genetic or familial factors. There is no underlying medical cause for the excessive hair growth. Hormone levels may be normal in these women.
- b) At menopausal age, many women start developing terminal hairs due to decreasing oestrogen levels
- c) Certain drugs such as steroids, some hormonal preparations can cause excessive hair
- d) Rarely, excessive hair maybe due to underlying medical problems. These conditions are associated with hormonal disturbances resulting in extra hair growth. Besides excessive hairs on face, these patients may have other signs and symptoms of hormonal disturbances such as weight gain, excess hair on chest and abdomen, loss of hair on scalp, dark pigmentation over body folds (neck, axilla) and menstrual irregularities. **Hence it is important to investigate and rule out such underlying abnormality. Gynaecologist’s advice, blood hormone levels, ultrasound etc are needed.**

### **Methods of hair removal:**

**a) The temporary methods** remove the hair shafts but leave the hair follicles and hair roots intact. The commonly used temporary methods include shaving, waxing, application of depilatory creams and even plucking. Given time, hairs will grow out from the hair follicles again and the process needs to be repeated indefinitely. Though cheap, these methods are time-consuming, repetitive and often lead to pigmentation and thickening of skin.

**b) The permanent methods** remove the hair shafts and also result in destruction of the follicles and hair roots. For a long time, electrolysis was the only permanent method. However, laser hair removal has emerged has a better method in recent years.

Electrolysis involves the application of electric current via a fine electric probe into individual hair follicle. This will result in destruction of individual follicle. However, electrolysis is extremely time

consuming, painful, needs several sessions and may result in scarring of surrounding skin due to the non-selective destruction of tissue.

### **Laser hair removal:**

Laser means light of a specific wavelength and hence is absorbed only by a specific tissue. Hence there is very selective destruction of tissue and hence no scarring.

### **How does laser work?**

***Melanin absorbs the laser light and heat is generated which destroys the hair.***

***Heat is absorbed at different levels resulting in hair destruction.***

***Because melanin is present only in the growing stage, only growing hairs (about 40%) are affected and are destroyed. Resting hairs are not destroyed and hence the procedure needs to be repeated after a month for the next generation of growing hair.***

The hair consists of 2 major parts:

- Hair **shaft** - the visible part of our hair, which has no influence on the hair growth.
- Hair **bulb** - the part which is under the skin and influences the hair growth
- There is no “communication” between the hair bulb and the hair shaft, hence shaving the hair has no impact on its growth

***Hair grows in a cycle of three phases***

### **3) Do lasers work wonders for hair removal?**

Lasers DO cause selective destruction of hair follicles and achieve long-term hair reduction after multiple sessions of treatment. Side effects are rare and minor-such as redness and brown pigmentation of skin in a minority of patients. These are temporary and can be easily prevented by using appropriate precautions such as using sun blocks and depigmenting creams.

**Remember: Lasers DO NOT achieve permanent hair destruction after one single treatment. Several sessions (between 4-8) are needed for significant hair reduction.** This is because lasers attack melanin present in the hair. Only growing hairs contain melanin and hence only growing hairs are destroyed. Resting hairs and grey hairs which do not contain melanin are not affected. These resting hairs reach growing stage after 3-4 weeks and hence laser needs to be repeated after 3-4 weeks to remove this second generation of hairs. After many sessions,

significant reduction in the number of hairs is achieved. Thus the pattern of response may vary from patient to patient. Hence patients should be aware of this fact and should be careful about advertisements, which promise a miracle.

### **Are all lasers same?**

No. It is also important to know that different laser systems may work differently for patients with different skin types and hence proper machine has to be chosen. Earlier lasers often caused pigmentation and redness-however, these side effects have been largely overcome in the newer machines. For Indian skins, Nd:Yag laser and diode laser are suitable, safe and effective. More recently, a new light source called LHE (Light and heat) technology has become available, which delivers both light and heat in to the hair follicle. This machine is also suitable for Indian skin.

### **Is laser hair removal expensive?**

If viewed as fees per session, it appears expensive when compared to the cost of a bottle of depilating cream or waxing or a session of electrolysis. However, when viewed long-term and recurrent costs of other treatments are considered over several years, laser hair removal is actually more cost effective. So, one should take in to account the effectiveness, ease of treatment, time spent, inconvenience of several treatments, and the quicker response –which all make laser hair removal the best and the most cost effective method of treatment.

### **What are the precautions for laser hair removal?**

1. Before the laser treatment, you should avoid waxing and plucking of hairs for 2 weeks
2. Avoid excessive sun exposure -Undue tanning should be avoided. This is to avoid damage to the overlying skin as the tanned skin will also absorb the laser light.
3. Trim the hairs short on the day of laser treatment.

Are there any side effects?

Mild redness of skin can occur-this can be prevented by using steroid creams. There are no long term side effects. There is no scientific basis to the press reports that hair removal laser can cause cancer.

Will the hair grow again in future?

This is the most common question asked by patients, perhaps because of the claims by advertisements about “permanent hair removal”. It is important to understand that laser is a cosmetic treatment to destroy the existing hair. It is not a treatment for prevention of future hair. If there is any underlying cause which converts vellus hair to terminal hair, patient may develop future hair growth. Hence it is important to rule out underlying cause in all cases. Further, hair growth after laser, even if it occurs is slow, the hairs are finer and thinner and maintenance session can be undertaken after 6 months to 1 year. For this reason, proper scientific term for hair removal

by laser used among dermatologists is “long term hair reduction” and not “permanent hair removal”. So what can be achieved is long term hair reduction- not permanent hair removal.

Can laser hair removal be performed by technicians?

In many countries, only dermatologists are allowed to use laser. Dermatologists have the necessary training and scientific background to perform the procedure and also to manage the after effects if any. Also only dermatologists have the necessary background training to investigate and treat the underlying cause for excessive hairs .Hence it is always advisable for the patient to consult a trained dermatologist.