

# The Coolglide Laser and the Aurora ELOS Hair Removing IPL.

## All You Need to Know about Hair Removal

The growth of hair on the human body is not as simple as it may first seem. So that you can fully understand the options available to you for hair removal, we have attempted here to explain all you need to know about hair growth.

Each hair grows from a structure in the skin called a pilosebaceous (pillow-seb-aye-shos) unit otherwise known as a hair follicle.

At the very bottom of the follicle is the dermal papilla containing a group of germination cells from which the growth of all hair begins. Each individual hair follicle has its own cycle of growing, falling out and resting. Humans are constantly shedding hair from all over the body. From 25 to 50 scalp hairs are shed every day. The lifetime of a hair varies a great deal among the various body areas and will differ from person to person. Lashes and brows may last 4 to 5 months, a scalp hair may average 2 to 4 years, but on some people last up to 7 years.

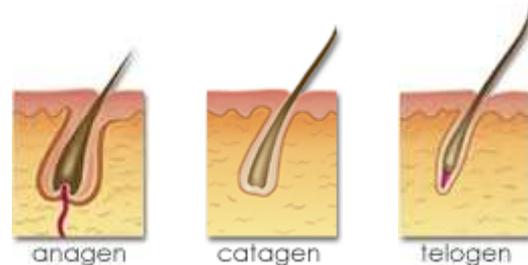
The worse scenario is there can be as many as 500 hair follicles or more per square centimetre of skin, but only 10% (or 50) may actually be growing at any one time. For this reason you may actually have more hair in the area you wish to be treated than you ever realised, particularly if you have been plucking on a regular basis. If you pluck your hair today it will take 6 to 12 weeks for it to appear on the surface again. It is physically impossible for it to appear sooner. So you will see, that hair that you might have thought was growing back two weeks after treatment with waxing or other methods, was in fact a hair from another hair follicle.

The stages of the growth cycle are important when considering permanent hair removal, because many methods rely on the hair being in the anagen phase of hair growth to allow the most successful treatment. This is also true for treatment with the Coolglide process.

### Anagen

This is a period of active growth. The base of the hair follicle grows down to the blood supply in the deepest layer of the skin, which supplies the nutrients to the growing new hair. At the same time the new hair begins to grow to the surface. When it becomes pigmented with melanin in the skin it can be treated.

The anagen phase is not completed until the hair has reached its full potential length. This can take weeks or as long as a few years. This is the best time for the hair to be treated, when the hair follicle is at its most vulnerable.



### Catagen

During the catagen phase the growth process stops and the hair prepares to fall out. The lower part of the hair follicle disconnects from the dermal papilla, and begins to degenerate. The length of this stage may vary considerably but may be as short as a few days.

### Telogen

This is the period of rest following catagen. This stage varies widely in length, according to the type of hair and the nature of the individual. It can be up to several years. Hairs in this stage are always very difficult to remove.

## What Stimulates New Hair Growth?

There are many factors that influence the growth of normal hair. Some factors may make the hair growth excessive and others may make the hair fall out. The primary influencing factor, as in many things is heredity. The growth patterns of hair on our bodies is most likely to follow that of our parents. Often medications can alter hair growth as well as changes in hormone levels brought on by pregnancy, menopause and medical problems. Stress will also play an important role.

As we age the hair patterns on our body change, part of this is to do with hormone influence and partly the aging process changing the way the hair follicles themselves behave. Hair growth changes are quite obvious at puberty, and at the menopause in women. At menopause, hair will start to gradually thin in areas such as the underarms and legs, but facial hair may start to develop

Some hormones seem to have the capacity to initiate hair growth where there was none previously. They stir to life certain cells near the sebaceous glands of the pilosebaceous unit. These hair germ cells need only to be turned on by the chemical action of the hormone.

An increase in blood supply to an area can increase hair growth, as if hairs were being "fertilised". The hair follicle tends to grow deeper and become coarser. This will not create new hairs, but it will change very fine hairs to much coarser darker hairs.

## Getting Rid of your Hair

For centuries people across almost all cultures have tried numerous methods to remove hair from their bodies. Today we can not only simply remove the hair but also have the choice of methods to destroy the hair bulb to reduce hair growth permanently such as electrolysis and laser treatments.

### Shaving

Shaving can be performed mechanically by a razor or chemically depilatory creams. It cuts the hair at the level of the skin. Shaving is an effective method for quickly removing hair, but the hair will return almost immediately. It does not inhibit the hair growth in any way and

the hair will now grow with a sharp end giving a bristle effect. Shaving does not alter the hair follicle, so it cannot make the hair worse, as is commonly believed.

### Tweezing

This removes the hair and the hair root. It is generally not recommended. It does not inhibit hair growth, but it is thought to sometimes stimulate the follicle to become stronger and deeper, thereby producing a darker and coarser hair. As we already know, it takes 6 to 12 weeks for the tweezed hair to return.

### Waxing

This is really tweezing en mass. It is effective for treating large areas of hair such as legs and bikini lines.

Some people do find waxing quite uncomfortable, but most find the discomfort tolerable and become used to it. ( A number of clients have used other systems in the past and find laser treatments less uncomfortable).

The hair grows back with tapered ends. There are some considerations to be made when waxing is done by a clinic. Good hygiene is essential as bacteria can breed in depilatory wax. There is now a system that has been developed in New Zealand to ensure an excellent standard of hygiene and efficiency. This system uses disposable applicators rather than spatulas or roll-ons, so there is absolutely no risk of cross contamination between clients. Ask about this system as opposed to traditional waxing.

### Electrolysis

This has been a long developed way to achieve hair follicle destruction. By placing a fine disposable needle down the shaft of the hair to the tip of the hair bulb and applying an electrical current, the energy changes to heat and selectively burns the follicle and hair germinating cells. By using a blend of currents, including a galvanic current, it is possible to create a flow of a caustic lye at the base of the follicle. This chemical process can also aid destruction of the hair germinating cells. This is a good and proven method of permanent hair reduction but has the disadvantages of being too uncomfortable for some people. It is also a very tedious process in covering large areas and the results are very dependent on the skill of the operator.

## Permanent Hair Reduction

Lasers have of course also been used to destroy port wine stains, tattoos, thread veins and other pigmented lesions whilst inflicting limited damage on the surrounding skin. This is possible as the wavelength of light targets a single pigment in the skin such as melanin, haemoglobin or ink. The light is selectively absorbed by the target structure only, leaving the other skin components intact. Lasers used for hair removal target the dark pigment of the hair and cells around the hair follicle. The pigment is at it's darkest whilst the hair it is in the anagen or growing phase. A beam of laser light of around 10 mm in diameter will destroy many hairs in that area in one flash. Many published research papers show excellent permanent reduction in hair growth following laser treatments. This method is now very popular and fast becoming the preferred way to treat unwanted facial and body hair.

### What does it feel like?

A mild sting for a fraction of a second. Most machines have a built in cooling tip that not only helps to protect the skin but it also minimizes the discomfort. Treatments do not take long with small areas often completed in less than 15 minutes.

### How many treatments are necessary?

Results vary between individuals and body areas with some hair and skin colours treating more effectively than others do. We will always do our best to be realistic about what the laser can and can't do for you, and be assured that we would not accept you as a client if we did not believe it possible to achieve the results which were discussed with you at your consultation. Having said that, it is always impossible to know from the outset that a given individual will get the results that he or she hopes for. As a guideline, hair that is considered to be non-treatable is hair that is too fair, too grey or too red to be treated at a safe setting for your skin. In addition to that, because melanin is also what colours your skin, the laser light will be attracted to it too. Therefore, increased skin pigmentation increases the risk of the skin burning so it is important not to have a treatment just when you have a new tan. Many different lasers have been tried and as time has allowed fine tuning of the various parameters of laser light so that optimal results are now achievable. Have a look at the following table to compare some of the machines available.

	<b>ELOS IPL</b>	<b>Medlite IV</b>	<b>Coolglide</b>
Wavelength	600-1200	1064	1064
Melanin Absorption	Very good	Good	Good
Depth of penetration	good	Excellent	Excellent
Long Pulse	4	6	4
Adjustable Pulse width	No	No	Yes
Ability to be used on tanned skins	4	44	44
Speed of use	44	444	44
Results of Long term hair reduction	444	4	444

## Ruby, Diode lasers and IPLs

Ruby lasers were used initially but were found to have limited results due to poor penetration of the shorter wavelengths. Diode lasers, such as the Lightsheer and others have a wavelength between the ruby laser and the Coolglide and as such also give reasonable results. Intense Pulsed Light (IPL) machines are not true lasers but emit a variety of wavelengths. Their penetration into the skin to reach the hair follicles is greatly assisted by their wider beams. The Syneron ELOS IPL is new and uses a unique and patented system combining the light with heat seeking microwaves. This gives better results especially for paler hair and may prove to be the best option for fair hair.

## Treatment Strategy

Bearing in mind the understanding of hair growth cycles explained earlier, it becomes clear that the higher the percentage of growing hairs, the more successful the treatment will be. This percentage varies from one individual to another and from one body part to another, but generally speaking the larger areas such as the trunk and the legs tend to have percentages of growing hairs at any one time. Waxing is an effective way of temporarily removing all hair from an area, and it is fair to assume that regrowth in the waxed area will be in the growing phase and therefore most responsive to treatment. If you are having a large area treated, we will have discussed waxing with you and if you choose that option, your first

laser treatment will have been scheduled for around a month or so after the waxing. For maximum benefit, the best strategy is to time treatments frequently enough to get the chance to cover all the hairs at their growth phase. Of course it is also important not to have treatments when there is little hair there. We therefore recommend that your subsequent treatments be scheduled **4 to 8 weeks apart**, depending on the speed of hair re-growth for the area being treated.

## **Pre-Treatment Care**

1. Avoid the use of depilatory creams and any possible skin irritant such as the stimulant creams (Retin-A, Retinova, Glycolic Cream) for one day prior to treatment
2. If we are treating the face you may still wear make-up on the day of treatment. Make-up will need to be removed completely before the treatment commences
3. **Do not have a tanned skin.** You must protect the area from exposure to the sun. Avoiding the sun is best, otherwise always make sure you are wearing a SPF 15 sunblock. As well as reducing the risk of an adverse effect, you will get better results if you do not have a tan at the time of treatment. Do not use self-tan or solariums for at least one month prior to treatments.
4. Shaving. The area to be lasered will respond best if there are no visible hair above the surface. This allows all the available laser energy to be used on where it matters-in the hair follicle within the skin. Clients will experience less discomfort also as there may be a sting if a lasered hair above the skin is pressed on to the skin. Please then close-shave the area on the day of treatment. Bear in mind that you will need to point out to the laser operator the definition of the area to be treated.
5. Do not wax or pluck for at least one month prior to your treatment.

If you are currently on the medication Ro-accutane or Gold Therapy or have been in the past 6 months, please let us know before each treatment session. This medication can make your skin more susceptible to damage from the laser.

## **Post treatment Care**

After your treatment, the area is cleansed and you can return to your normal activities immediately. Slight reddening and local swelling of the skin, similar to sunburn, may occur in some patients. These effects typically last 24 hours or less. In very rare cases blistering may occur.

1. Avoid exposing the treated area to sunlight for 2-3 weeks after your treatment. If you do go in the sun, protect with a SPF 15 sunscreen.
2. Keep the area clean. Wash gently with tepid water. Avoid the use of any possible skin irritant on the face such as the stimulant creams (Retin-A, Retinova, Glycolic Cream), Benzoyl peroxide or astringents.
3. Should the area appear red or show any signs of tenderness, apply a soothing cream such as over the counter Hydrocortisone Cream or Aloe Vera Gel. If you experience any persistent irritation or notice weeping, broken skin, blistering, or pigmentation changes following the treatment please get in touch with us.
4. Do not shave the treated area for at least 4 days after the treatment. Do not wax, pluck or use depilatories for the hair that grows back. After laser treatment, hair may continue to grow out as if it were never even treated. Typically this will occur for about 2 weeks and then these hairs will simply begin to fall out.

Call the Clinic today to schedule a free and private consultation with our certified operator.

**Appearance Medicine and Laser Clinics Ltd.**