



IPL

Intense Pulsed Light System
Model GP Flash1

THEORY & CLIENT CARE GUIDANCE MANUAL



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CACI Intense Pulsed Light System Model GP Flash 1

Introduction

The CACI Intense Pulsed Light system is the most innovative and versatile Intense Pulsed Light System (IPL) on the market.

FDA approved for the removal of unwanted hair and the treatment of vascular pigmented lesions.

The system has been specifically designed for multiple applications including, hair removal, skin rejuvenation, acne and vascular treatments.

The system features the largest spot size presently available 50 x 25mm making the system particularly fast at treating larger areas like legs and backs.

Fewer treatment shots required means reduced treatment time, greater client comfort, extended lamp life (10,000 shots) and greater profitability.

Patented interchangeable lamp box filters enable the system to provide a treatment solution for every condition, hair and skin type.

Desk top sized and weighing just 18kg the system is extremely portable and suitable for the smallest of treatment rooms.

Advanced touch screen software and treatment selection menus make the system particularly user friendly and easy to operate.

The CACI system is Powerful ($38\text{J}/\text{cm}^2$), fast (up to 1 shot per second) and effective.

Intense Pulsed Light Basic Principles

The CACI IPL method is based on the theory of selective photothermolysis.

Photo – Light Therm - Heat Olysis – Process

Selective Photothermolysis

Is the specific absorption of light by a target tissue (e.g hair chromophores) without damaging the surrounding tissue.

A hair chromophore is the melanin (pigment colour) which absorbs the intense light energy known as fluence.

Darker objects absorb heat while white objects reflect heat.

Dark hairs contain more melanin than the surrounding skin tissue and therefore will absorb the energy (fluence) at a greater level than the surrounding skin.

The melanin in the hair absorbs the IPL energy converting it to heat at a temperature of approx 70°C and so the hair is destroyed.

However, the hair will regrow if destroyed in the Catagen or Telogen stages of the hair growth cycle (see anatomy and physiology of hair) it is only in the Anagen phase that hair regrowth can be inhibited

To inhibit growth anagen cells (growth phase cells) attached and dividing at the base of the hair follicle must be targeted and destroyed

By heating the Anagen cells to 70°C, cell necrosis occurs and non functional fibrous tissue is formed so inhibiting hair regrowth.

Hair removal is achieved by appropriate filtering of the light source and by emitting a sufficient amount of light energy (fluence) to be absorbed by the melanin content in the hair.

Wavelengths

The correct choice of wavelength filter and light energy (fluence) will ensure the highest degree of hair removal with minimal epidermal damage.

However, the degree of absorption by each chromophore depends on the wavelength of light used.

Whenever light hits tissue, it can be transmitted, scattered, reflected or absorbed, depending on the type of tissue and the wavelength used.

However, light absorption must take place for there to be any biological effect and a given wavelength of light may be strongly absorbed by one type of tissue and be scattered by another.

Each type of tissue has specific absorption characteristics. The main light absorbing chromophores of tissue are:

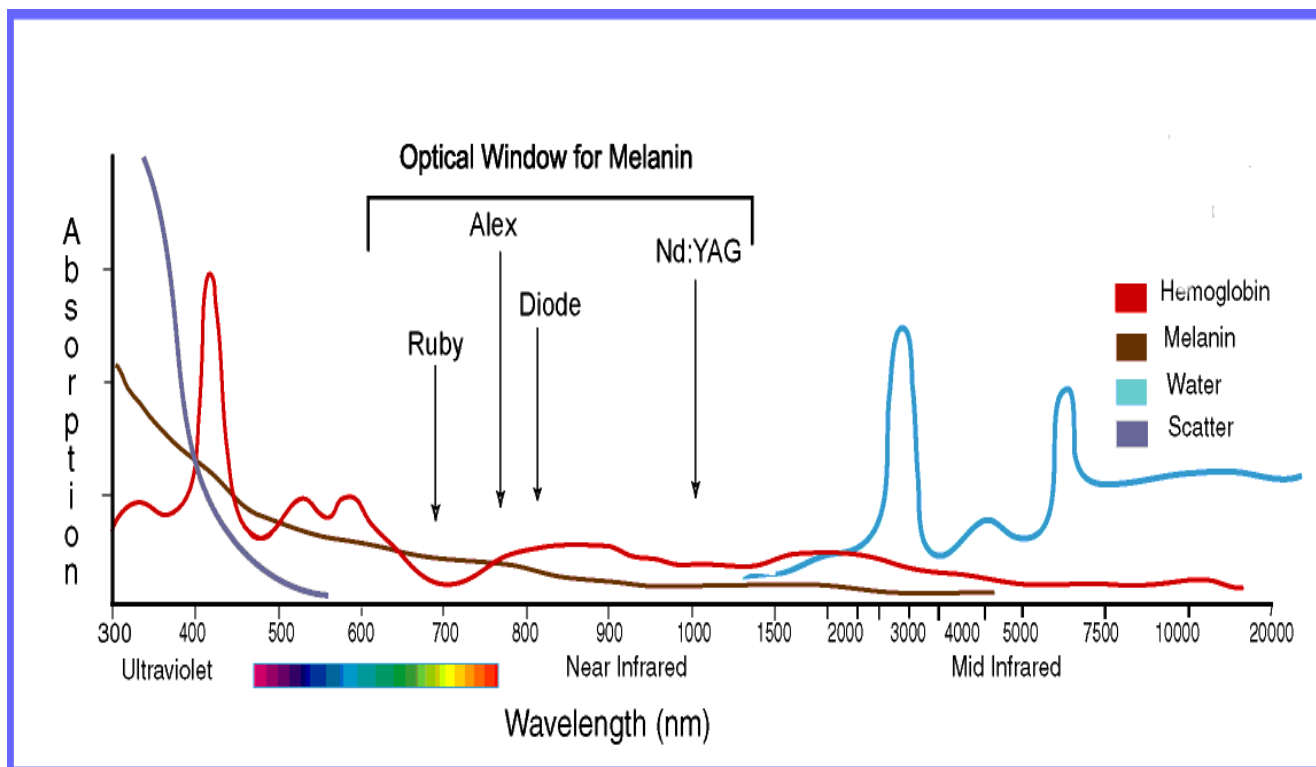
- Haemoglobin in blood
- Melanin in skin, hair, moles
- Water

Infrared light at around 1300nm is absorbed primarily by water, while visible and ultraviolet light is absorbed mainly by haemoglobin and melanin. (see light absorption chart)

Lasers produce monochromatic light, that is, they only deliver one fixed single wavelength. Eg a diode Laser operates at 810nm. Lasers are therefore best suited to specific applications and depending on their wavelength are suited to particular hair and skin type.

Intense Pulsed Light systems can deliver a filtered band of light so incorporating a range of different wavelengths within the filtered band.

Intense Pulsed Light systems therefore are able to target different chromophores so providing a range of treatment applications for a wider range of hair and skin types.



When light is absorbed it delivers energy into the tissue and the tissue's reaction depends on the wavelength, the intensity (fluence) and exposure time (pulse time) of the light.

Pulse Time

An extremely intense, but extremely short pulse of light will usually cause an explosive expansion of the tissue or photomechanical reaction

A less intense, longer pulse of light will cause a rapid heating or photothermal effect.

Lower intensities applied for a longer duration will cause a photochemical change by slow transfer of energy as heat.

In principle, a pulse duration that is shorter than the cooling time of the hair, yet longer than the cooling time of the epidermis should be selected.

Variations in cooling times can therefore be fine tuned selecting either single pulse or repeat pulse modes.

The wavelength range selected must ensure that the light penetrates at a sufficient depth into the skin tissue to reach the hair bulge and bulb.

The depth of the hair will differ depending on the anatomical location of the hair for example hair on the top lip is more superficial than underarm (axillae) hair.

Individual hairs will differ in melanin content and size (girth) and so accordingly will the degree of absorption of the light energy (fluence).

For this reason specific areas of the body will have a greater success rate than others.

Most areas can be successfully treated, by selecting the appropriate wavelength filter and adjusting the light energy (fluence), to maximise the amount of absorption by the melanin within the hair without damaging the surrounding tissue.

Anatomy and Physiology of Skin and Hair.

Introduction

Areas of unwanted body hair and blemished skin continue to be an aesthetic problem plaguing both men and women alike.

Hair has most commonly been removed by shaving, or by mechanical epilation with waxes or epilating devices. Various epilating products have also appeared on the market. These methods have been identified to cause irritation, folliculitis, and in some patients scarring.

IPL hair removal provides a fast removal of unwanted hair from large areas of the face and body with few side effects. In most cases this technology provides a longer lasting hair removal to traditional methods and can therefore be termed permanent hair reduction. The theory of hair removal using this method is called *Selective Photothermolysis*.

In order to understand the methodology of utilising a AN IPL SYSTEM to remove hair it is important to have a good understanding of both anatomy and physiology of hair and skin.

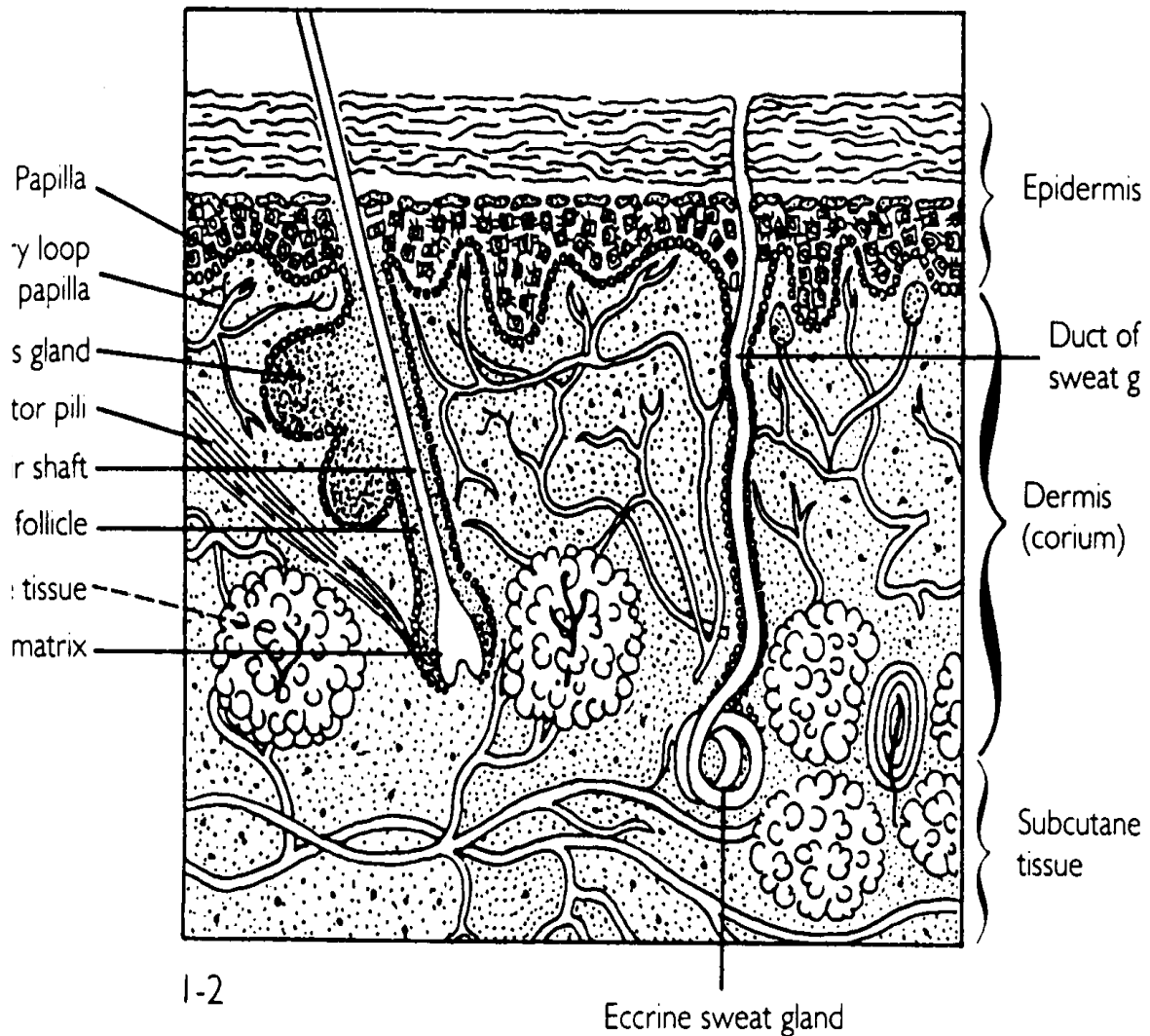
The Anatomy and Physiology of Skin

Skin ... The outer covering of the body.

The skin, with its glands, hair, nails and other structures, makes up the integumentary system, the body's tough outer covering. It protects the internal organs, lets the body breathe and helps resist bacteria and infection.

The skin consists of two main layers, an outer *epidermis* and an inner layer, the *dermis*. Beneath the skin is an underlying *subcutaneous layer*.

Figure 1



Epidermis

This is the highly metabolic active layer in which the skin cells and pigments are manufactured. Epidermis is composed of stratified squamous epithelium. Cells proliferate from the deepest region, then mature as they are pushed upward towards the outer surface by newer cells from beneath. Eventually they die and slough off to form dust or fodder for the dust mites. Throughout the lifetime, the body will make and lose several kilograms of skin. The process of shedding skin is called *desquamation*.

Over most parts of the body the dermis is paper-thin yet it consists of four to five layers:

1. **Stratum basale** also called stratum germinatum or the Malpighian layer. This is the deepest layer in which the cells reproduce by constantly dividing (mitosis) and providing a continuous supply of new cells to the upper strata. Some of the cells proliferated in the basal layer are pushed up to form the next layer:

2. **Stratum spinosum** also called the prickle cell layer. This layer consists of about ten rows of cells that fit closely together and are connected by desomes (cellular extensions). These structures help form the barrier proteins of the outer most layer.

In this layer, the keratohyline granules first appear (keratin).

As prickle cells mature, they lose the ability to divide. Moving outwards towards the skin, prickle cells gradually flatten and become:

3. **Stratum granulosum**. The granular cell layer contains one to three layers of flattened cells, which possess marked numbers of keratohyline granules. In this layer, the cells lose their nucleus.

4. **Stratum lucidum**. This layer is present only in the thick skin of the palms and soles and is often difficult to see, as it appears as a fine line. As the cells continue to be pushed upwards towards the outer surface they move into the:

5. **Stratum corneum**. The Horny layer which consists of anucleate cells (or keratinized cells). The nuclei and other organelles are destroyed by lysosomal enzymes, and the cells die. Keratin, the tough waterproofing protein of the epidermis fills most of the each cell at this stage. The Stratum corneum consists of about 20 layers of dead cells in various stages of disintegration. As they are pushed outwards, they resemble dead scales. They are closely packed together and serve as a waterproof protective covering for the body.

The entire process of differentiation from basal layer to horny layer takes 3-4 weeks. Thus the epidermis constantly regenerates itself while providing a tough keratinized barrier to protect the skin against external stress. The horny cell layer may also contain small amounts of other substances, which remain after keratinization; water, water-soluble proteins, amino acids, sugar, urea, minerals and some lipids.

These by-products of cell differentiation serve to maintain the skins integrity by acting as buffers and lubricants.

Pigmentation

Also contained in the epidermis are the spidery shaped melancytes, which produce the skins natural pigment, *melanin*. Whatever the skin colour or race, there is always a similar number of meloncytes. The difference lies in the amount of melanin each produces. Melanin is a dark treacly substance that is manufactured in response to ultra violet assault. It migrates into individual cells to form a physical umbrella over the nuclei to protect it against sun damage.

The more melanin produced, the darker the skin and better protected it is from ultra violet damage. The meloncytes present in the lowest layer of hair follicle cells pass pigment granules onto the hair cells thereby giving colour to hair as well as skin.

Skin colour is inherited, in dark skin meloncytes are more active and produce more and larger granules of melanin. Asiatic people have the yellowish pigment *carotene* in their skin as well as melanin. An albino is a person of any race who has inherited the inability to produce pigment.

The Dermis

The dermis is the thick layer of skin beneath the epidermis. (See diagram) The middle layer is deep and spongy which acts like a supportive elastic mattress to the epidermis.

Dermis is irregular dense connective tissue composed mainly of collagen fibres. These are responsible for the mechanical strength of the skin. It also allows the skin to stretch and then contract again. The upper portion of the dermis has many small finger like projections called papillae, which project into the epidermal tissue. Extensive networks of capillaries in the papillae deliver oxygen and nutrients to the cells of the epidermis, and also function in temperature regulation.

Blood vessels and nerves are also found within the dermis. Specialised skin structures such as hair follicles and glands formed from cells of the stratum basale but push down into the dermis and are located there. Cells of the dermis as well as the deeper layers of the epidermis are bathed by tissue fluid.

Subcutaneous layer

The subcutaneous layer consists mostly of fat (*adipose tissue*) interspersed with blood vessels, bundles of nerve fibres and some fingers of muscle fibre. The subcutis acts as a protective cushion for what lies above and below. This thick fatty layer also insulates the body and stores energy within the adipose tissue for periods when food is not available.

Functions of the skin

The Integumentary system consists of the skin, hair, nails, and glands.

The Integumentary system functions to:

1. Prevent water loss dehydration.
2. Prevent entrance of excess water, disease organisms, and many harmful chemicals.
3. Help maintain constant body temperature.
4. Help inform the central nervous system of changes in the external environment by means of sensory receptors within in the skin.
5. Help in the excretion of water and body wastes.

Assessment of the skin

An assessment of the skin/ hair and appropriate history selects information about the presenting complaints and the patients physical general condition. An assessment should be made prior to any treatment to prevent any inappropriate care/ damage occurring. The assessment should then be followed by a plan of treatment, which is then implemented, followed by an evaluation of the treatment given to see the treatment has been effective.

Assess, Plan, Implement and Evaluate treatment.

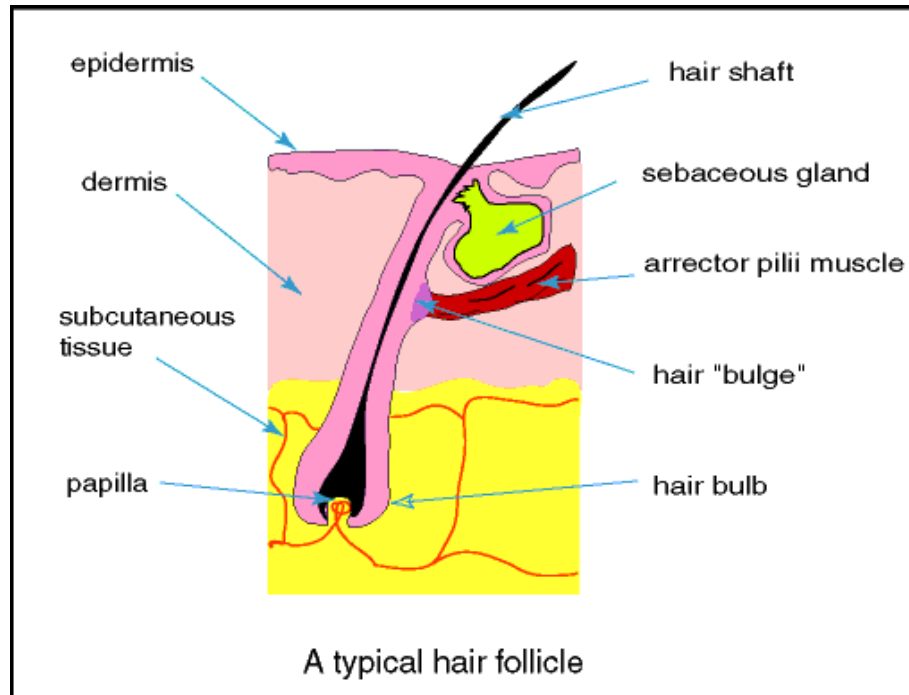
The Anatomy and Physiology of Hair

HAIR ...a thread of keratinised outgrowth of the epidermis of the skin.

Hair serves a protective function and plays a role in sexual attraction. It is found on all skin surfaces except palms and soles. On the less hairy parts of the body the hair is hardly noticeable.

There are two main types of hair; *terminal and vellus*. Terminal hairs are long, coarse, thick and visible, vellus hairs are tiny and unnoticeable.

Properties and Characteristics of Hair



- The part of the hair we see is the *shaft* the portion below the skin surface is the *root*.
- The root, together with its epithelial and connective tissue covering, is called the *hair follicle*.
- At the bottom of the follicle is *papilla*, a little mound of connective tissues containing the capillaries that deliver nourishment to the cells of the follicle.
- Just above the papilla is a group of epithelial cells derived from the *stratum basale*, which multiply giving rise to the cells of the hair.
- Each hair consists of cells that proliferate and manufacture *keratin* as they move outwards and then die.
- The *shaft* consists of several concentric layers of elongated protein cells, which are formed, in the bulbous part of the follicle deep in the *dermis*.
- The inner layer of the shaft is the *medulla*; the living core, this is however not present through out the whole of the hair shaft.
- The middle layer is the *cortex* that also contains pockets (melanocytes) of melanin pigment, as in your skin, giving your hair protection and colour.
- The outer layer is the *cuticle* that comprises five to ten layers, or overlapping sheets, of curved tiles of *keratinocyte* cells.
- Composed of anucleic cells, all hair is essentially dead matter. That is why hair can be cut with out the sensation of pain.
- As long as the hair follicle is intact the hair will continue to grow. If the hair follicle is destroyed by electrolysis or by IPL, no new hair can form. New hair follicles are not formed after birth.

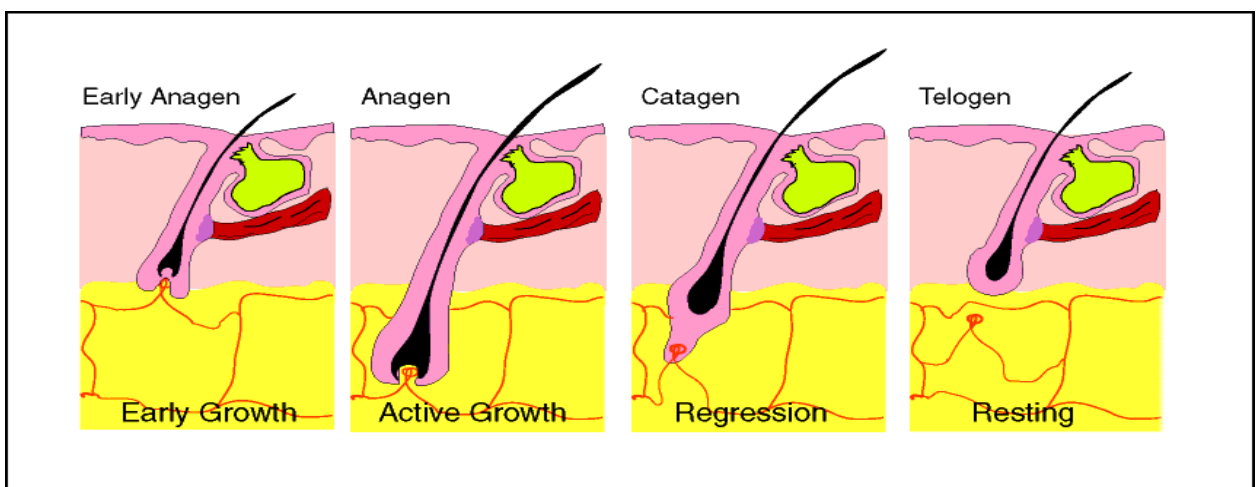
Hair Growth

Hair grows in cycles. Each hair follicle goes through a growing phase, followed by a resting phase. After that, a new hair grows in the same follicle, pushing the old one out. In humans, the phases are not synchronised, so that there is always some hair growing while some follicles rest.

The hair goes through three main phases; the *anagen*, or growing phase, a transitional *catogen* phase and the *telogen*, or resting phase. Figure 2

Hair Anatomy and Growth cycles

Figure 2. Hair growth cycles



The phase of the hair growth cycle which is most susceptible to IPL-assisted destruction is controversial. These cycles show considerable variation anatomically with anagen or the growth phase lasting up to 3 years. Current hair growth models suggest that follicle stem cells reside in the 'bulge' area. These bulge cells form a new hair matrix to initiate the growth phase after stimulation during late telogen (hair loss phase). Thus, in the early growth phase, the papilla is closest to the skin surface and then extends downward and proliferates for a period of time that varies with anatomic location. This proliferation also determines hair length.

It is during this early anagen phase that the desired targets are in proximity to each other and the skin's surface. At this time the papilla is located nearest both the epidermis and the bulge area with its accompanying vascular supply.

Theoretically it is during this rapidly dividing period that hair may be most sensitive to the thermal effects imparted from an IPL SYSTEM or other light source. Upon transition of the anagen phase into the catagen (stasis) phase, the hair matrix cells regress and the papilla retracts to a place near the bulge, and remains there until the hair cycle restarts. During the telogen phase the follicle detaches from the papilla and contracts to almost one third of its original depth. This quiescent "club hair" eventually falls out.

This 'Shedding can take several weeks to occur.

When the hair falls out and the cycle begins again. Not all hair is in the anagen or telogen stage at one time; in other words the hair growth is not synchronised but cyclic.

Normally about 90% of scalp hair are in the growth phase. Up to 90 hairs are shed each day, but since the scalp has on average 100,000 hairs they are hardly missed and besides, the ones shed are quickly replaced. Scalp hair grows about 2.5cm every 2-3 months. How long a particular hair grows depends upon the length of time the hair spends in the growing phase. The length of the cycle is genetic and how long hair grows depends on how long its anagen phase is.

As you get older the anagen phase gets shorter and the resting phase longer, therefore as you get older, it takes longer to grow your hair. Cutting or shaving hair has no effect on its growth.

These growing cycles may be adversely affected by systemic and local disease processes, drugs or stress. Hair growth is dependent on circulating hormonal factors (primarily testicular or adrenal androgens). Thus hormonal imbalances or shifts (e.g. accompanying childbirth) may also result in disturbances in the hair cycle.

Nutritional factors have little effect on hair growth, except in severe cases of malnutrition.

Hair Colour

Hair colour is determined in part by genetics and in part by the same pigment responsible for your skin colour type - *melanin*.

There are two different shades of melanin; *eumelanin* which is brown to black, and *phaeomelanin* which is yellow to red. In hair there is a third type that is *oxymelanin* which is also yellow to red, which is a naturally bleached version of phaeomelanin.

The reason for hair growing grey is not understood, hence the lack of a cure. The ability of the melanocytes to produce pigment however, declines with years. Most Caucasians begin to see white hairs in their mid thirties, while in black skin types the onset is delayed. Also with age, the hair appears wiry and unmanageable due to lack of melanin, with its moisturising properties.

Too much hair

Unwanted facial and body hair can represent a severe cosmetic disturbance, sometimes with social and even psychological implications. Hair can be a crowning glory, but an unwanted zapato moustache on the average female is far from glorious. Other factors intermixed with cultural preferences, taboos and accepted fashions also makes hair unwanted.

The development of localised or diffuse unwanted hair may occur in association with many inherited syndromes. It is essential that these be fully understood by the IPL Therapist removing this unwanted hair.

The normal amount of hair growth varies as ethnic or racial differences, and culture may dictate what is to be regarded as socially acceptable. Body hair considered sexually attractive in one society may be thought totally objectionable in others.

One person's excess hair growth may be another person's normality as there are many racial and ethnic differences in our physical make up and cultural and social attitudes to body hair.

A knowledge of the correct terminology is important in describing abnormal hair growth.

Hypertrichosis

This is the presence of increased hair in men or women at any particular body site. The hair usually grows longer and faster than would be normal of vellus and terminal hairs.

Hirsutism

This is defined as excess hair on women only (a masculine pattern of hair growth) with growth increase in hair diameter and cyclic growth rate.

Most common areas of excess hair growth at androgen dependant sites include the upper lip, chin, chest, inner thighs, back and abdomen. The most common causes are Polycystic Ovary Syndrome (PCOS) and idiopathic or unknown.

Clients with (PCOS) may also present with infertility, acne, and abdominal pain.

Excessive hair growth may be an indicator of physical conditions requiring medical assistance. It is therefore recommended that prior to any treatment, whether home or professional, a GP is consulted.

Causes of Hirsutism and Hypertrichosis

- *Virilising tumours*, indicators include a shift over to the male characteristics, produced by excessive secretion of androgens from the adrenals or by an ovarian tumour.
- *Endocrine disorders* e.g. Cushings disease. This condition resulting from excess amounts of corticosteriod hormones in the body. This may be due to over stimulation of the adrenal glands by a tumour of the pituitary gland.
- *Anorexia nervosa*. Can lead to the production of fine dark excess hair growth on the face trunk and arms.
- *Phorphyria*. A rare metabolic disorder caused by an enzyme deficiency.
- *Hyperthyroidism*. An over activity of the thyroid gland, due to a tumour or over growing of the gland.
- *Dermatomyositis* .An inflammatory disorder of the skin and the underlying tissue.

Medications and excess hair growth

Medications - If a connection is found between medication and the appearance of excessive hair, the hair will disappear when the medication is stopped eventually. However it may not totally disappear immediately, but once removed the growth should resume its usual pattern.

Medications that cause excess hair growth include,

- *Androgen like drugs*

These may be responsible in women only for excessive hair growth, in areas of secondary sexual hair such as the lip/beard chest and groin. Anabolic steroids, corticosteroids and contraceptives are in this category of drugs.

- ***Non androgen drugs associated with excess hair growth***
- *Minoxidil* - A peripheral vasodilator used in the treatment of high blood pressure. Trade names: Loniten, Regaine.
- *Phenytoin* - An anticonvulsant drug used to control epileptic fits. Trade name Epanutin.
- *Penicillin* - An antibiotic. Penicillin G, Benzylpenicillin and penicillin V.
- *Diazoxide*. A drug used to lower blood pressure.
- *Cyclosporine*. An immunosuppressant, a drug that is administered to prevent and treat the rejection of organ or bone marrow transplantation.
- *Phenothiazine* i.e. haloperidol , antipsychotic drugs.

Client Care Guidelines and Operating Procedures

The 590-1200nm lamp box and 640-1200nm lamp box (for darker skin) target the chromophore of melanin in the hair follicle but there also exists a possible hazard to the skin with pigmentary changes and scarring from the absorption of the IPL light energy in the skin.

It is therefore important that the correct treatment settings and filters are selected for the patient according to hair and skin type

1. The IPL operator must follow the standard procedure before a patient can be accepted for treatment.

The patient must have undergone an assessment and consultation session prior to commencing a session of IPL treatment.

2. When initiating a new treatment session it will be necessary to determine the appropriate settings on the IPL.

The aim is to use the highest tolerated energy (joules) dependent on the patient's perception of discomfort and on the appearance of the skin after an IPL shot.

It is advisable to commence with a test pulse in the area to be treated at a maximum energy levels of 25 joules.

The energy levels then can be turned up to the recommend maximum energy settings.

3. The above procedure should be carried out for each patient at each visit. Quite often after the first visit, higher energy densities are tolerated.
4. The IPL operator should continuously monitor the skin reaction during Treatment.

5. Test areas

Test areas must be performed on all patients prior to initiating any treatment. The size of the area must be appropriate to the area being treated. For small areas such as the upper lip a test area of 20 x 10mm should be sufficient. For larger areas such as legs a test area of 50 x 25 mm should be sufficient.

The following is a list of conditions, which require a waiting period prior to treatment until affected skin's appearance is similar to surrounding skin.

Glycolic Acid (over the counter) Less 10%	1day
over 10%	2 weeks
Retin-A, Differin Renova, Adapin	2 weeks
Sunburn moderate	2 weeks
Severe	4 weeks
Moderate peel	1 month
Light peel	2 weeks
Liposuction	2 months
Dye IPL	2 months
Accutane (oral)	6 months
Photo derm (spider viens)	6 months
Implant surgery	6 months
Deep peel	6 months
Laser skin resurfacing	6 months
Burns	6-12 months
Surgical scars	1 year
Skin graft	1 year
Warts	Ask GP

Conditions to avoid treatment or exercise extreme caution

Keloids	wait 4 weeks
Virtiligo	wait 4 weeks
Hyper pigmentation	wait 4 weeks
Hypo pigmentation	wait 4 weeks
Darkly pigmented skin,	wait 4 weeks
Psoriasis	wait 2 weeks
Anti coagulant	wait 1 hour
Bleeding disorder, nose bleed	wait 1 hour
Taking of Oral steroids- more than 10mg/day	wait 1 hour

6. Performing full treatments

Pre Consultation and Counseling

The patient should be put at ease by a preparatory discussion; this should include an explanation of what the treatment involves and how long the procedure will take. Also a realistic expectation of how much hair is likely to be removed after each treatment and how long the hair takes to be removed. It is useful to ask the patient what they are hoping to achieve so that real expectations can be set.

Total hair removal can not be guaranteed but a great improvement in hair reduction and aesthetic appearance can be delivered.

A brief description of the physical mechanisms of IPL epilation, including the possible side effects should be explained.

A patient history should be taken to ascertain the cause of the problem whether it is medical or cosmetic. At this stage a GP referral may be necessary in some cases. The cause of excessive hair may be the result of a medical condition or as a side effect of a medication and therefore may need further investigation. At this stage you can do a skin and hair type analysis and check for any further contraindications. You should use the form provided as a guide for your consultation and keep this in the patient's record file.

Conditions that, if treated may produce variable results:

Hormonal therapy, i.e., (progesterone, testosterone)

Oral Steroids (creates hair growth)

Endocrinological disorders;

Polycystic ovaries

Adrenal hyperplasia (Diabetics)

Gender identity disorders (GID) recommended hormone therapy 9 months prior to treatment (sex change)

Areas to avoid with the IPL

Permanent make up.

Tattoo's

Moles, acquired and congenital (cover with paper tape)

Possible side effects

These should be explained clearly to the patient prior to treatment and prior to them signing consent of treatment form.

- Temporary hyperpigmentation (brown discoloration).
- Temporary hypopigmentation (lightening of the skin)
- Temporary erythema (redness).
- Temporary peri-follicular oedema
- Temporary folliculitis.
- Temporary blistering and scabbing.

Patient Consent

A patient consent form must be signed prior to treatment, which explains any possible side effects, and confirmation that the patient has been given an explanation of the procedure and expected outcome.

It is important that the patient reads and understands the consent form and you should therefore ask them to sign against each clause as they read it. This is also a requirement for Insurance purposes.

Preparation of area to be treated

- The area that is to be treated should be marked in consultation with the patient.
- It may be useful to photograph the area to be treated prior to shaving to assess the effectiveness of treatment at later stages, during the treatment. Patients will often forget how bad their problem was initially.
- The skin type and hair colour should be assessed, as this will determine the pre- determined recommended settings for the IPL, these details should be well documented along with the treatment given and the IPL settings.
- Skin classification is measured by a visual assessment i.e. can only be done in the visible range.
- Use the Fitzpatrick Skin Type Classification as a reference.

Fitzpatrick Skin Types

Type	Colour	Burns	Tans
I	Very fair	Always	Never
II	Fair	Usually	With Difficulty
III	Normal/White	Sometimes	Average
IV	Slightly Dark	Rarely	With Ease
V	Dark	Very Rarely	Very Easily
VI	Very Dark/Black	Does not Burn	Very Easily

- Reaction to irradiation by the IPL may be different for a skin that appears the same type. Similarly, the number of hairs and melanin constituents in the area of radiation exposures also plays a considerable role.
- A pre- determined checklist of skin type and skin absorption features (including those of hair) should be available to determine the fluence of the IPL to be used for irradiation.
- The area to be treated should be shaved with a beard trimmer; followed by a close razor shave of any remaining stubble (this will increase the efficiency of the treatment). It is then advisable to remove any remaining hair using paper tape as this will make the treatment more comfortable and more effective as all the available IPL Light will be absorbed into the follicle and not wasted on superficial hair.
- The area should be cleansed with a non-alcohol, non-lanolin skin cleanser.
- A form of coolant should be applied to the skin, e.g. ice pack to reduce erythema.
- The patient should be informed of the safety measures needed while the procedure is being performed i.e. the need to wear goggles to prevent eye damage.
- The area of the skin to be treated should be measured to determine and estimate the number of times the IPL needs to fire.
- When treating large areas you should work in sections cooling the specific area both before and immediately after treatment. Cooling products or ice packs are normally sufficient to do this.

- Upon completion of the treatment apply a cooling agent to assist in cooling and patient comfort.
- These procedures should routinely carried out to ensure the treatment given is most effective.

Documenting Treatments

A Patient record file should contain

1. Initial Consultation Form
2. Patient Record Card for each treatment
3. Patient Consent Form

(See Specimen Documents provided)

In addition it is recommended that you keep a Log for every time the IPL is used to record Date time client starting shots finishing shots and therefore total shots used. This can then be verified at each service by our engineers by the internal shot monitor, which can not be altered.

All records should be kept on file for any inspection to be carried out by the Registration and Inspection Unit for your area.

Post IPL treatment care.

Any initial reaction to the IPL treatment should settle down in a few days. The patient should continue to use the cooling gel twice daily until any irritation has settled.

All patients should avoid direct exposure to bright sunlight for two weeks following treatment and should wear a sunscreen.

Use of Sun beds or fake tans should also be avoided.

A telephone number should be provided should the patient have any post operative queries.



Initial Consultation Form

1. What body area are you considering for IPL hair removal?

2. What have you previously used to remove your unwanted hair?

Please select all that apply

- Nothing
- Waxing
- Tweezing
- Shaving
- Epilstop
- Bleaching

3. What colour is your hair in the area you want to be treated?

- Black
- Brown
- Blonde
- Grey
- White
- Light Brown
- Light Blonde
- Red

4. What colour is your skin in the area you want to be treated?

- White
- Brown
- Black
- Light Brown

5. Do you have a suntan?

- Tan
- Slight Tan
- No Tan

6. What is your skin type in the area you are considering to have IPL hair removal?

Type I

Always burn, never tan (extremely fair skin/blond hair/blue/green eyes)

Type II

Usually burn, tan less than about average (fair skin, sandy brown to brown hair, green/blue eyes)

Type III

Sometimes mild burn, tan about average (medium skin, brown hair, green/brown eyes)

Type IV

Rarely burn, tan more than average (olive skin, brown/black hair, dark brown/black eyes)

Type V

Moderately pigmented, tans profusely (dark brown skin, black hair, black eyes)

Type VI

Deeply pigmented, never burns (black skin, black hair, black eyes)

7. Have you been on Accutane in the past 6 months?

Yes

No

8. Are you currently on any medication?

Yes

No

If yes, is it photosensitive?

Yes No Not Sure

What is the name of the medication?

9.) Personal information. Please fill in the appropriate information for better service. All Information is Strictly Confidential!

Name

Address:

Telephone Number:

Patient Record Card

NAME

DATE

PATIENT NUMBER

TREATMENT No.

TREATMENT AREA

CHANGE IN MEDICAL HISTORY

Treatment

Treatment

Spot Size

Fluence (J/cm^2)

Number of Shots

Additional Information

Patient Consent Form

Full Name

Date of Birth

Address

Male/Female

Postcode

Tel No (Daytime)

Mobile Tel No.

Medical History

Medical Problems

Operations:

Diseases/Illness:

Medication

Recent sun exposure:

Photosensitivity: Yes/No

Known Allergies

Are You Pregnant

The information I have given is to the best of my knowledge correct. I have not withheld any known medical history or condition. IPL selectively destroys target hair follicles with minimum damage to the surrounding tissue giving permanent hair reduction.

- I have read and understand the CACI IPL Consultation form
- I understand that the conditions listed in the consultation form and consent form can make unsuitable for the IPL treatment. It is my responsibility to inform the IPL operator if my circumstances change
- I understand that I need multiple treatments, depending on my response to the treatment, to achieve optimal results.
- I understand that results may vary in different treatment areas and according to hair and skin type and that permanent hair removal is not guaranteed.
- I understand that I should avoid sun or heat exposure 2 weeks prior and after treatment. Treated areas exposed to sunlight should be protected using sun protection factor 45.
- I understand that there may be short term effects, such as reddening, mild burning, temporary bruising and temporary discolouration
- I understand that other methods of hair removal such as waxing may be detrimental to the IPL treatment

GP Disclaimer

I understand that the General Medical Council advise that General Practitioners are kept fully informed about all treatments undertaken by their patients.

Either I have informed my General Practitioner

Or In signing this form I am exercising my right not to inform my General Practitioner about the treatment I am about to undertake

I have read and understood this consent form, all the above matters have been explained to me and my questions have been addressed and answered to my satisfaction.

I consent to the CACI IPL treatment being undertaken.

Client Name In Full

Client Signature

Date

Name of IPL Operator

Date

Answers to Common IPL Questions

Q: Is it Permanent ?

A: Assure the client that they will have a permanent reduction in hair growth. In many patients there is total clearance after a course of treatments but each client has to be assessed individually

Q: How Many treatments will I require ?

A: The client will need at least 4 treatments. Different areas of the body have numerous hair growth cycles and we have to destroy all those cycles. On average a client will need between 4 – 10 treatments over a period of 12 –18 months

Q: Is it Laser ?

A: No it is an advanced light based technology that unlike laser has multiple wavelengths so can treat all skin types and can perform a variety of different applications

Q: How long is the treatment ?

A: The IPL has the largest treatment spot size on the market so is up to 5 times faster than other light based treatment systems. Typically a top lip can be treated in a matter of a few seconds and both underarms in just 10 minutes

Q: What are the side effects ?

A: A patch test will determine the correct setting for your hair and skin type. There are generally no side effects but if your skin is particularly sensitive to heat then a slight redness may occur but this will normally disappear within days

Q: Does it hurt ?

A: At most a sharp sting or prickling sensation, lasting a split second might be felt. This will vary depending on the individual and the sensitivity of the treated area. Most find the sensation of the treatment far more comfortable than waxing or electrolysis