



Safe Use of Lasers and Intense Pulsed Light Equipment





INVESTOR IN PEOPLE

Consumer Services Industry Authority 2003
Fraser House, Nether Hall Road, Doncaster DN1 2PH
Tel: 01302 380000
Fax: 01302 380028
email@csia.net
www.habia.org.uk

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HABIA
Worldwide Hairdressing Industry Authority

Hairdressing And Beauty Industry Authority is a trading name of Consumer Services Industry Authority



HABIA Spain
OMAT (Organización Mundial de Artes y Técnicas)
Evaristo San Miguel 18, 28008 Madrid, Spain
Tel> 3491 547 3292 Fax> 3491 547 8402
email> omat@omat.net website> www.omat.net



HABIA Italy,
A.E.S S.r.l.
Via G. Vittorio, 2/D - 42100 Reggio Emilia, Italy
Tel> 0522 616506 Fax> 0522 922002
email> info@aessrl.it website> www.aessrl.it



HABIA East,
Kanagawa Prefecture
Yokohama City, Nakaku Honmoku, Osato-cho 10-8-4 B
Tel> 045 661 1214 Fax> 045 661 1214
email> info@habia-east.org website> www.habia-east.org

1. Contents

1. CONTENTS.....	P1
Foreword.....	P3
Acknowledgements.....	P4
2. INTRODUCTION.....	P5
Regulations.....	P8
3. GUIDANCE ON TREATMENTS.....	P10
3.1. How does laser and intense pulsed light hair removal work?.....	P10
3.2. Is the treatment suitable for everyone?.....	P11
3.3. How many treatments are needed?.....	P12
3.4. Is it permanent?.....	P13
3.5. Which areas can be treated?.....	P14
3.6. How long does a treatment take?.....	P14
3.7. Is treatment painful?.....	P15
3.8. Can my client remove hair between treatments?.....	P15
3.9. What are protocols and who should write them?.....	P16
3.10. Why do I need to carry out a test patch before starting treatment?.....	P18
3.11. Should I take photographs of my treatments?.....	P20
3.12. Why do some hair removal systems use gel?.....	P22
3.13. What does a typical treatment involve?.....	P22
3.14. How should the skin look after treatment?.....	P24
3.15. What aftercare advice should I give my client?.....	P26
3.16. What is an adverse reaction to treatment?.....	P27





4. CONTRA-INDICATIONS.....	P30
4.1. Are there any contra-indications for laser and intense pulsed light hair removal?	P30
5. EQUIPMENT AND LEGAL ISSUES	P36
5.1. What should I look for when buying a hair removal system?	P36
5.2. What is the difference between a laser and an intense pulsed light system?.....	P38
5.3. Why is there so much 'jargon' around lasers and intense pulsed light equipment?	P39
5.4. Are lasers and intense pulsed light systems dangerous and can I use them anywhere in my salon or clinic?	P40
5.5. Are there any legal requirements for providing a laser or intense pulsed light hair removal service?	P42
5.6. How can I show that I am meeting the National Minimum Standards?	P48
5.7. What training do I need to carry out treatments?.....	P50
5.8. Do I need a medically qualified person working with me?.....	P52
6. FUTURE DEVELOPMENTS	P54
6.1. What new or future treatments might I be able to offer?.....	P54
7. GLOSSARY OF LASER & INTENSE PULSED LIGHT TERMS.....	P56
8. NATIONAL OCCUPATIONAL STANDARDS (NOS)	P64

Foreword

There has been an enormous growth in demand for intense pulsed light and laser treatments in the past few years, and employers had expressed to us their desire for better guidance on their correct use.

HABIA's first response was to ensure that the use of intense pulsed light and laser treatments became part of the National Occupational Standards, the basis for all vocational beauty qualifications.

As a result, techniques in intense pulsed light and lasers are due to be a part of the new Beauty Level 4 Standards (from February 2004).

HABIA's next response was to develop this booklet, designed specifically to give you no-nonsense, straightforward guidance on the new standards, as well as advice on the application of the Care Standards Act to beauty salons.

Together, this booklet and the new standards will help ensure that beauty salons have the competent and knowledgeable staff needed to tap into this growth market and perform intense pulsed light and laser treatments with safety and confidence.

John Gray

Director, Oxford Hair Foundation





Acknowledgements

We would like to thank Dr Elizabeth Raymond who has written this booklet in collaboration with HABIA. Elizabeth has a background in laser science and laser safety and has been involved with European wide projects in laser training and education.

Elizabeth acts in an advisory capacity to a number of companies and was a key member of the team who wrote the National Occupational Standards for HABIA.

Whilst Head of Lasers at The Laser Centre, Loughborough College, Elizabeth was responsible for the development and delivery of the first nationally recognised qualifications in skin laser therapies, laser and intense pulsed light hair removal and laser safety.

Elizabeth continues to develop and offer qualifications and courses in laser and intense pulsed light therapies from The Laser Training and Education Centre at The Mapperley Park Clinic, Nottingham. The Centre provides theoretical and practical training within a clinical environment for the beauty and medical sectors.

In addition HABIA would like to thank the many companies who provided the illustrative photographs used within the booklet. Each of the photographs is credited individually.

2. Introduction

If you look through any beauty publication, women's magazine, health magazine or medical journal, the chances are that you will find an article about **laser** or **intense pulsed light treatments**. The number of new treatments and procedures using lasers or intense pulsed light technology is increasing rapidly and crosses both the beauty therapy and medical sectors. For example – vision and eyesight correction, removing birthmarks and tattoos, treating red veins and skin lesions, surgical procedures, treating cancers and tumours, wound healing and treating sports injuries, improving the appearance of skin, treating active acne or improving acne scarring and, of course, hair removal.

Overleaf are some of the treatments currently using laser or intense pulsed light equipment.



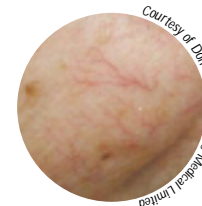


Here are some of the treatments currently using laser or intense pulsed light equipment:

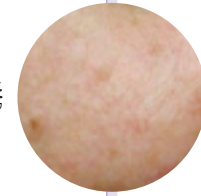
TREATMENT	TECHNOLOGY
Vascular treatments port wine stains, telangectasia, thread veins, leg veins	<ul style="list-style-type: none">• Dye lasers, Frequency doubled Nd:YAG lasers, intense pulsed light
Pigmented treatments tattoo removal, pigmented lesions such as café au lait macules, lentignes, photo-ageing	<ul style="list-style-type: none">• Q switched ruby, Nd:YAG or Alexandrite lasers
Ablative treatment removal of epidermal layers to reduce wrinkles and facial lines, treatment of acne scarring, wart removal, benign lesions	<ul style="list-style-type: none">• Carbon dioxide laser, Er:YAG laser
Photo-rejuvenation photo-ageing, roscea, large pores, mottled pigmentation	<ul style="list-style-type: none">• Intense pulsed light
Hair removal body and facial hair, hair management for hirsutism	<ul style="list-style-type: none">• Intense pulsed light, diode lasers, Nd:YAG lasers, Alexandrite lasers

SKILLS SECTOR

- Medical training, identification of lesions. Full or topical anaesthesia, repeated treatments, high level of aftercare
- Medical training, identification of lesions. Topical anaesthesia, repeated treatments, aftercare
- Medical training. Full or topical anaesthesia, high level of aftercare, issue of antibiotics
- Some medical training or working knowledge of hair and skin biology, knowledge of contra-indications and when to refer, no anaesthesia, repeat treatments, limited aftercare
- Some medical training or working knowledge of hair and skin biology, knowledge of contra-indications and when to refer, no anaesthesia, repeat treatments, limited aftercare



Courtesy of Dan Good MD, Alnus Medical Limited



Vascular treatment before and 5 weeks after one treatment



Courtesy of Cyprocare UK Ltd



Pigmented treatments include the removal of tattoos and pigmented lesions



Courtesy of Frablin Cosmetic Laser Centre



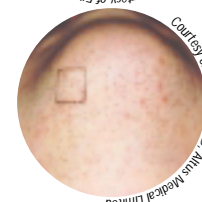
Ablative treatment before and 6 months after treatment



Courtesy of Ellipse Piled Light & Danish Dermatologic Development



Photo-rejuvenation improves pigmented lesions, mottled pigmentation and diffused facial redness



Courtesy of Dan Good MD, Alnus Medical Limited



Hair removal before and 10 weeks after one treatment

As a quick guide – if a word or phrase appears in bold text you will find its definition in the Glossary!



Regulations

In April 2002 a new law came into effect – **the Care Standards Act 2000**. This law and its supporting Regulations include significant legal requirements for the safe and correct use of laser and intense pulsed light equipment. Lasers and intense pulsed light systems are powerful devices and in the wrong hands, or used in the wrong way, are capable of serious injury to our eyes, our skin and our tissues. Because of this potential for harm, it is important that we recognise and distinguish between invasive and non-invasive, cosmetic-type procedures. Beauty therapists should be very clear as to where, how and by whom particular treatments should be carried out. **The Hairdressing And Beauty Industry Authority (HABIA)** take this responsibility seriously and

has developed **National Occupational Standards** and guidance for qualified beauty therapists for hair removal and photo-rejuvenation treatments. Only these non-invasive treatments are considered appropriate in the beauty sector and HABIA recommends that only beauty therapists who have qualified in electrolysis should progress to become laser and intense pulsed light practitioners. The most important criteria for offering a laser or intense pulsed light hair removal service is that your facility is registered with the **National Care Standards Commission (NCSC)** in England (or equivalent body in Scotland, Wales or Northern Ireland) and that it meets the **National Minimum Standards (NMS)**.



Although laser and intense pulsed light hair removal is seen as a potentially lucrative market, you must do your research thoroughly to ensure you have the correct facilities, staff, equipment, safety and training for the job – otherwise, at best you may damage your business or suffer financial loss – at worst, you may damage a client. Because the range of treatments and equipment is constantly being increased and improved, make sure you stay up-to-date and knowledgeable by joining professional organisations, subscribing to trade journals and newsletters, attending training or study days and exhibitions.

This booklet is designed to help you with your research. The aim is to introduce the use of lasers and intense pulsed light systems for hair removal in a clinic or salon environment. It stresses the need to understand and comply with the

legal and safety requirements and the need to follow best practice. It should give you a good introduction to the subject and hopefully answer many of the questions that salon owners have when they are thinking of investing in this technology or expanding their treatments to include laser or intense pulsed light hair removal. It will not make you an expert practitioner – that takes time, training and practice – but it will give you the information you need to make informed choices and decisions if you plan to undertake these rewarding and worthwhile treatments.

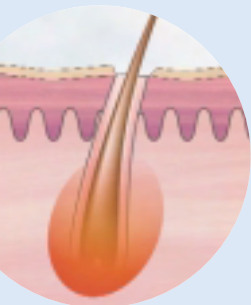
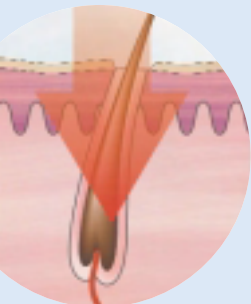
The new National Occupational Standards developed by HABIA set out the recommended best practice for the use of lasers and intense pulsed light treatments for hair removal treatments and photo-rejuvenation.



Light energy is absorbed by the hair pigment and converted to heat energy.

The follicle will be damaged if it is heated sufficiently which reduces its ability to re-grow hair.

It is essential that the surrounding tissues are not also damaged by the light energy and cooling devices or gels may be necessary - especially for darker skin types.



3. Guidance on treatments

3.1 How does laser and intense pulsed light hair removal work?

Lasers and intense pulsed light systems can both provide very effective treatments for hair removal if you use them in the right way on clients with appropriate hair and **skin types**. An essential reference for current best practice for beauty therapists wanting to learn to use laser and intense pulsed light systems are the National Occupational Standards developed by **The Hairdressing And Beauty Industry Authority** (HABIA).

The laser or intense pulsed light delivers a pulse or several pulses of **light energy** into the skin where it is **absorbed** by the pigment in the hair follicle and, to a lesser extent, by the surrounding tissues. The light energy is converted to heat energy and if the temperature

of the hair follicle is raised to around 70°C for the correct length of time, the follicle will be damaged and its ability to re-grow a hair significantly reduced.

The most effective time for treatment is thought to be when the hair is in the active growing, or 'anagen' phase. Anagen hair contains the most melanin and is better at absorbing light energy than hair in the resting (catagen) or shedding (telogen) phase. This explains why laser and intense pulsed light hair removal is not a one-off treatment. Hair follicles that are resting or shedding will not be significantly affected by the light energy and will re-grow in time.

To provide safe and effective treatments the light energy must be delivered to the skin in the right way. You will need to learn how to adjust the settings on your system to suit your client's skin type and skin and hair colour. If you do not deliver the light in the right way there is a risk of blistering or burning the skin or causing pigmentation changes, resulting in lighter or darker patches of skin which can take many months to clear.

3.2 Is the treatment suitable for everyone?

The general rule is that the hair colour should be darker than the skin colour. Treatment is most effective when there is good contrast between the hair colour and skin colour – making black hair in pale skin the ideal combination to treat.

Blonde, red or grey hair responds less well so you may need to suggest alternative therapies, such as electrolysis, for these hair types.

Some newer laser and intense pulsed light systems claim to work on blonde or grey hair. As the technology develops this may become possible but you should always ask your supplier for clinical studies or pictures to support their equipment claims. If you include statements that you can treat all skin types or all hair colours in

your client information leaflets or advertising materials you may be asked to defend this by the **National Care Standards Commission (NCSC)** inspectors.

Clients with **darker skin** types may absorb too much **light energy** in the skin and are more at risk of burns or pigmentation changes. You will need very effective skin cooling and the right type of system to treat very dark skin types.

Clients with a suntan in the treatment area should not be treated until their tan has faded.

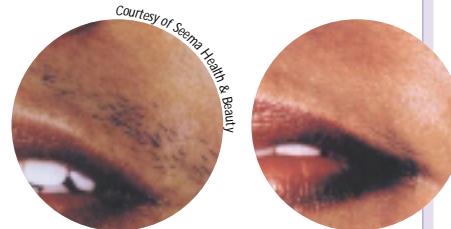
Clients taking certain medications may not be suitable for treatment. Your clinic should have treatment **protocols** which list the medications or conditions that would contra-indicate treatment.

Clients who are pregnant are not ideal for treatment because of the hormonal and pigmentary changes that can occur during pregnancy.

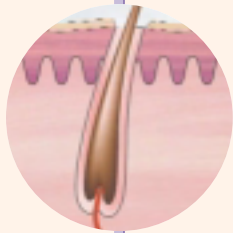


More information about adverse reactions can be found in Section 4.16. For contra-indications to treatment see Section 5.1

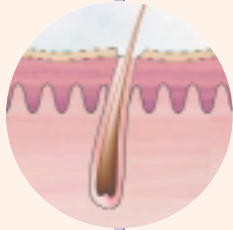
Female test client. After four treatments she was so satisfied that she declined further treatments. The majority of the remaining hairs are white and cannot be treated.



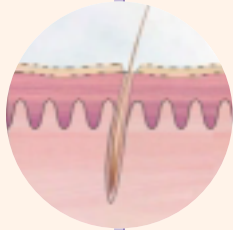
Upper lip on a skin type V after four treatments. Laser and intense pulsed light treatment of darker skin types is possible with appropriate equipment settings and effective skin cooling.



ANAGEN



CATAGEN



TELOGEN

You will need to offer your client a course of treatments because individual hairs go through a growth cycle.

P12

Treatment is thought to be most effective in the anagen, or growing phase. Each successive treatment will result in long term hair reduction. Many clients find that remaining hair becomes finer and less pigmented as treatment progresses.

3.3 How many treatments are needed?

You will need to offer your client a course of treatments because individual hairs go through a cycle of growth. Most salons and clinics recommend a course of 4 - 6 treatments for the best, longer-term results. But the hair growth cycle varies in different areas of the body and is affected by ethnic origin, age and hormones. Depending on these factors some clients may need more or less treatments because each individual will respond differently to treatment. Your client consultation and **informed consent** must explain why a course of treatments is necessary and set realistic expectations and outcomes.

Hair removal is thought to be most effective when the hair is actively growing, so on the first treatment the light energy will damage the growing hairs but not those that are

resting or shedding. When your client visits again, typically 4 - 6 weeks after the first treatment, different hairs will have moved into the growing phase and will respond well to treatment. So over the course of the 4 - 6 treatments you will target hairs as they come into the growing phase and significantly reduce their ability to re-grow.

Your client information leaflets should include this sort of information to make it clear that it is not a one-off treatment and that results can vary from person to person.

3.4 Is it permanent?

This is always a difficult question to answer! Clinical and research studies have proved that laser and intense pulsed light treatments can significantly reduce the rate of hair growth compared to other removal methods such as waxing and shaving. It has also been shown that re-growth in the treatment area is finer and softer as a result of treatment.

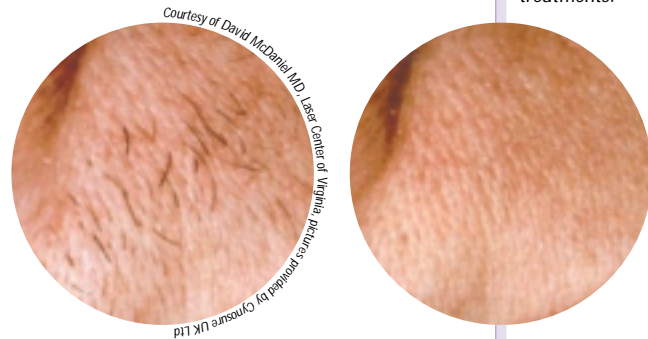
Hair removal by laser and intense light is a relatively new treatment so it might be too early to talk about 'permanence'. Treatment success varies from person to person and relies upon careful client selection, setting realistic client expectations and client compliance. Because of the hair growth cycle you need to offer a course of treatments and you may find that some clients require an occasional 'top-up' treatment once

the initial course of treatments is complete. Equally, if your client is taking certain medications or has a medical condition that affects hair growth, the treatment may be less successful.

These factors can make it difficult to describe the treatment as 'permanent' so it is wiser to talk about hair management or hair reduction as this will give your client a more realistic picture of what laser and intense pulsed light treatments can achieve.

Remember that if you use the word 'permanent' in your advertising material or offer guarantees on hair removal, you may have to defend this if a client is not happy with your service.

Long term hair reduction is possible with laser and intense pulsed light treatments.





Courtesy of The Laser Centre

Most parts of the body can be treated if the skin and hair are appropriate.



Courtesy of Aculight



Courtesy of Lynton Lasers

3.5 Which areas can be treated?

Most areas can be treated if the hair and skin type are suitable but you should not treat very close to the eyes or over the mucous membranes such as in the nose or ears.

The most common areas for treatment are legs, back, underarms, bikini area, chin, top lip, beard area, chest and abdomen.

The National Occupational Standards developed by HABIA are a useful reference for current best practice for beauty therapists wanting to work with laser and intense pulsed light systems.

3.6 How long does a treatment take?

This depends on which area you are treating and on the **spot size** of the treatment beam. A small area such as a top lip can be as quick as 15 minutes whilst a full back might take up to two hours to treat depending upon the **laser or intense pulsed light system** you have.

Most lasers and intense pulsed light systems can operate at different speeds (**pulse repetition rates**).

For example, a system that fires two pulses a second is twice as fast as one pulse every second. For large treatment areas such as backs and legs this can significantly reduce your treatment time and help to maximise your income.

Ask your equipment manufacturer or supplier about treatment speed and treatment area for their particular equipment – this will help you plan your treatment times and fees when comparing systems.

3.7 Is treatment painful?

Most clients say they experience a tingling, 'hot' sensation. Some describe it as a sharp, brief pinprick, or an elastic band flicking against the skin. However, most clients say it is less painful than waxing or electrolysis.

Once the light energy has done its job it is important to remove the heat from the skin. This is absolutely essential if you treat darker skin types which retain heat

longer than pale **skin types**. You may need to use cooling gels or cold compresses to soothe and protect the skin after treatment.

Areas that have a greater hair density, eg, the beard area, can be more uncomfortable than other treatment areas because the heat can build up and be retained for longer. Offer cooling gels or additional cooling to soothe the skin.

Many **laser and intense pulsed light systems** have built-in cooling on the treatment handpiece to reduce discomfort and reduce the chances of skin damage during and after treatment. This is a useful feature to look for when choosing equipment for your salon or clinic.

Many laser and intense pulsed light treatments have in-built cooling to reduce discomfort and help protect the epidermis during treatment. This picture shows a cooled laser tip used in contact with clear gel.

3.8 Can my client remove hair between treatments?

You must advise your client not to pluck or wax between treatments because these methods pull the hair from the follicle – and this is thought to make treatment less effective. Your clients can shave or trim hairs between treatments.

Some salons allow clients to use bleach or depilatory creams but not immediately prior to a treatment.

After the first or second treatment some salons ask their clients to shave in readiness for their treatment to keep the appointment time to a minimum and maximise their fees.



Courtesy of Dr. E. Raymond

3.9 What are protocols and who should write them?

The **National Care Standards Commission** (NCSC) recognise that **lasers and intense pulsed light systems** are used in a variety of settings for a variety of purposes, including beauty salons and clinics offering minimally or non-invasive services (such as hair removal) which do not require the operator to be medically qualified. However, because laser and intense pulsed light equipment has the potential to cause serious injury, the NCSC insist upon regulation and inspection to ensure safety. This includes the requirement that laser and intense pulsed light practitioners follow **protocols** that are supported by written procedures.

A protocol is a precise and detailed plan that is followed when undertaking a treatment. In practice this means you will need

to have a formal written statement that describes exactly what you do when you carry out a treatment. Standard P1 of the **National Minimum Standards** states that: "A protocol produced by an expert medical or dental practitioner is followed which sets out the necessary pre-treatment checks and tests, the manner in which the procedure is to be applied, the acceptable variations in the settings used, and when to abort a treatment."

Many of the equipment manufacturers and suppliers provide outline treatment settings or guides on how to use their equipment correctly and safely and many salons and clinics use these as their protocols. Other clinics may appoint a medical adviser or consultant to help them develop protocols.

To comply with the legal requirements ensure that your protocol includes information on:

- **Contra-indications**
- Technique
- Pre-treatment tests
- Post-treatment care
- Recognition of treatment-related problems
- Procedure if anything goes wrong with treatment
- Permitted variation on machine variables
- Procedure in the event of equipment failure.





Once you have the protocol you will need to develop some written procedures for how you use the laser or intense pulsed light equipment. These written procedures must cover:


- The potential hazards from lasers and intense pulsed light systems
- Details of the controlled area and access procedures
- Methods of safe working
- Safety checks
- Normal operating procedures
- **Personal protective equipment**
- Prevention of use by unauthorised persons and
- Adverse incident procedures.

Most of these details are normally included within the 'Local Rules' for each controlled area. Local rules are exactly what the name suggests – the rules or procedures

that everyone must follow when working with laser or intense pulsed light equipment in the salon or clinic. They tell you who can use the equipment, what to do if you have an accident, how to start up and close down equipment, how to check and maintain equipment, what the hazards are and who is responsible for safety.

Accurate and detailed protocols and procedures are an essential element of your hair removal service. Take time to develop them and check them and get people less familiar with the procedures to read through them to see if they are clear and easy to follow.

Remember – the most important thing about protocols or procedures is that they set out exactly what you do – and that you do exactly what they say! So make sure you get them right.



3.10 Why do I need to carry out a test patch before starting treatment?

You will need to carry out a **test patch** to determine the right treatment parameters and to judge how the skin (and client!) might react to full treatment.

A **test patch** is a small trial in an area with similar hair and skin to the treatment site. Typically a few discrete pulses are delivered to the skin – with careful recording of the settings – which allows the practitioner to assess how well the **light energy** is being **absorbed** and whether the skin is responding as would be expected. A ‘normal’ skin response could include follicular erythema (redness) and localised swelling (oedema) around the follicles. Darker **skin types** can take longer to show a response than paler skin types, so always give the test patch time to develop before rushing into

treatment. Your **protocols** should set out exactly how the test patch is performed, including: which areas to test, the laser or intense pulsed light settings, how long to wait to judge skin response, how to spot adverse reactions.

You must record the equipment settings accurately and carefully but the most important factor is to test in an area that has similar hair and skin as the treatment area. The test patch is also a good way for your clients to experience the ‘pricking’ sensation and it lets you judge their tolerance to treatment.

Many salons and clinics test patch during the initial consultation (which you can only do after gaining **informed consent**) and arrange for the client to return within a given time after the test patch. For the paler skin types a delay of one week is typical, whereas darker skin types may be asked to wait for two weeks before returning for assessment and treatment. This delay between test patch and full treatment is an important opportunity to assess the longer-term reaction of the skin to the light and the client should make a note of any redness or swelling and how long it takes to reduce, whether the skin blistered or felt excessively hot and for how long. It is also an opportunity for the client to be sure they want to proceed with treatment. When the client returns and before you start the first

treatment, you should record the client's reaction to the test patch and if necessary adjust your treatment settings accordingly.

If you are treating more than one area on a client you must test patch each different treatment area. An armpit might show a very different reaction from an upper lip because of the difference in skin type and hair density.

Remember – even though a test patch may not show an adverse reaction this does not guarantee that a full treatment will always be without complications.



Courtesy of Dr. E. Raymond

A test patch is an essential part of your protocols as it allows you to assess how the skin responds to the light energy. The test patch can be in a discrete area but it must have representative hair and skin to the actual treatment area.

3.11 Should I take photographs of my treatments?

Close-up photographs of the treatment area are an essential part of your client records and treatment plans.

It is best practice to take photographs of the treatment area before the hair is shaved or trimmed and before the client starts a course of treatments. This is a very valuable record for you and your client to see how treatment is progressing. You will need to use a good quality camera with a flash. Choose one with a lens that can take normal and close-up pictures, eg, of small treatment areas such as the chin or upper lip. Use good quality film and processing and always use the flash.

Good quality photographs will show:

- The condition of skin and hair prior to treatment – and whether it was suitable to treat
- Patches or areas of skin in the treatment that should be avoided, eg, skin tags, moles, tattoos
- The expected 'normal' skin reaction to treatment – eg, some redness, localised swelling around the follicle or some dark hair 'splatters' on the surface of the skin
- Immediate after-effects of treatment if you think the skin has reacted badly – eg, blistering, excessive swelling or redness, skin whitening or greying
- Whether the course of treatments has been effective and achieved a hair growth reduction.

If your client returns complaining of pigmentation changes, blisters or skin damage you should photograph the area and take careful notes. In extreme cases you may need to refer your client on for further advice – your protocols should include this sort of detail so that you know exactly what to do and how to proceed if a client shows an adverse reaction.

A good quality photograph with accurate labelling is a very valuable record of your treatment outcomes and success.



Your client might be concerned about having their photograph taken. You should reassure them about confidentiality, security and anonymity:

- Take 'close-up' photographs of just the treatment area so that the client cannot be easily identified
- Use numbers or codes on the photograph label and not the client name
- Keep photographs with the client record, stored safely and securely in accordance with the Data Protection Act 1998 and the **National Minimum Standards**.

The client records that you take must be kept and made available to the **National Care Standards Commission** (NCSC). One of the **National Minimum Standards** (C29) requires that your salon or clinic has a policy for creating, managing, handling, storing and destroying records to meet the legal requirements and professional practice recommendations. The most important thing is to make sure your records are clear and accurate and that they are dated, timed, signed and legible.

The HABIA website has useful links and information about client records and the Data Protection Act 1998.

You will have to keep your client records for up to eight years depending upon the age of the client when they finish their treatment – so it might be worth considering storage space if you are planning a new laser or intense pulsed light facility.

You should refer to the **Care Standards Act 2000** and the supporting regulations to make sure you meet the legal requirements for which documents you must keep and for how long you must keep them.

Remember, you may need to use your photographic records to show that you have acted with integrity and competence if a client complains about your service or your treatments.





Many laser and intense pulsed light systems use gel to direct the light energy into the skin and provide a cooling effect.

3.12 Why do some hair removal systems use gel?

A layer of gel is often used to help 'direct' the **light energy** into the skin. Gel can also give a cooling effect if the system does not have built-in cooling.

For treating large areas such as the back, gel allows the user to 'glide' the treatment handpiece which can reduce treatment times – but you

must be an experienced user for this technique.

The gels you use must be completely clear and colourless. You must ask your client about any allergies – including use of gels – before you start treatment.

3.13 What does a typical treatment involve?

Your clinic or salon must have written **protocols** that set out exactly how treatment is delivered including the **laser** or **intense pulsed light** settings for different **skin types**. You must follow these protocols.

If your protocols need to be changed because you develop a better or safer way of working, or because your treatments are ineffective or harmful, you should consult with your medical adviser

or equipment supplier. If you do change your treatment protocols you must make a careful record for your **NCSC evidence** and make sure that all the users know about the changes.

Before you can begin any treatments you must be certain that the client is suitable for treatment. You should have taken a medical history, discussed the treatment, its benefits and risks, identified skin type, answered any

questions or concerns and gained **Informed Consent** from the client.

The **National Occupational Standards** developed by HABIA are produced by consultation with industry experts and are reviewed regularly to provide a useful reference for current best practice for beauty therapists wanting to learn to use laser and intense pulsed light systems.

A typical treatment routine might include:

- Checking medical history and that informed consent is still valid, for example: that your client has not started certain medications, has recent sun exposure, or is likely to be pregnant
- Preparing the client for treatment
- Cleaning or removing make-up from the treatment area and **marking-out** or pre-cooling the area for treatment if necessary
- Labelling and photographing the area

- Shaving or trimming the hair in the area
- Issuing appropriate **protective equipment** such as **eyewear**
- Setting treatment parameters according to **skin type**, hair type, **test patch** results, previous treatment settings
- Applying gels to the treatment area if appropriate
- Delivering the laser or intense pulsed light beam according to treatment protocols
- Cleaning and soothing the treatment area
- Photographing the area
- Providing aftercare advice
- Writing up client records and treatment plans

- Scheduling the next appointment.

Remember that record keeping and documentation is an essential part of your service. Only by carefully documenting your treatment settings and outcomes will you be able to judge the quality and effectiveness of your service. You can then identify any problem areas or complications that arise and by doing this your treatments will become safer, more reliable, more effective or more repeatable. All of which leads to better client satisfaction!

Consultation, pre-treatment procedures and aftercare are all part of a good treatment protocol.



Normal erythema in two half-axilla treated areas produced by two different 810nm diode lasers at the same fluence, both using contact transmission and contact cooling and roughly similar spot sizes, same time post treatment.



After treatment the area may appear red with localised swelling around the follicle, there may be burnt stubble or temporary crusting – although treatment endpoints can vary between different laser and intense pulsed light systems.

3.14 How should the skin look after a treatment?

This depends upon the client **skin type** and the equipment you use for treatment. A good manufacturer or supplier should provide equipment manuals and reference pictures that tell you what to expect from treatment – but everyone reacts differently to treatment and you must advise your clients of this. The most important thing is to advise your clients of what to expect from treatment and how they should care for their skin in order to minimise possible complications.

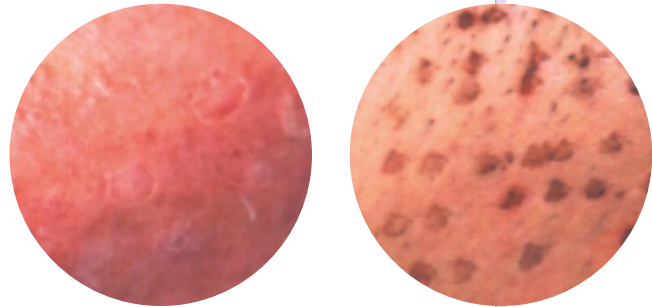
Clients may experience the following reactions to treatment:

- Skin redness – which can last for several hours or a few days
- Localised swelling around the follicles – which can last for several hours or a few days
- An urticarial or ‘goose bump’ appearance of the skin – which can last for several hours or a few days
- ‘Frazzled’ hairs adhering to the surface of the skin – which will be shed naturally – clients should not pick or pluck these from the skin
- Bruising, most typically seen in the axilla and bikini area – which can last for several days
- Occasional blistering – this might indicate that subsequent treatment settings require modification.

Not every client will show all of these reactions but this does not necessarily mean that treatment has not worked. You might find it useful to build up a collection of post-treatment photographs of normal and adverse reactions so that you can begin to identify typical treatment reactions.

Unlike electrolysis, the hairs that have been exposed to the light remain in the follicles after treatment. You should advise your client that these hairs will move to the surface and be shed over a one or two week period. Clients that are not warned about this often believe the treatment has increased their hair growth so will be unhappy with your service.

A good aftercare advice leaflet can help to answer your clients' questions and reduce any anxieties they might have about what to expect after a treatment.



Stop immediately if you see significant skin changes such as greying or whitening of the skin as this may lead to blistering or pigmentation changes.

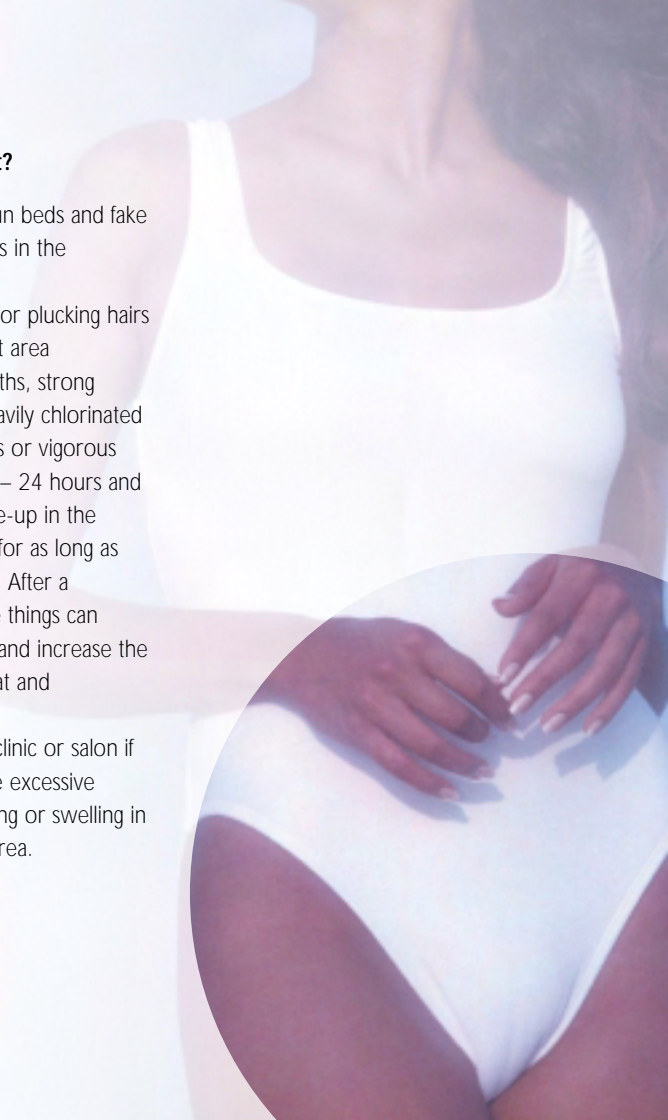
The most important post-treatment advice you can give is sun avoidance. Not only will a tan increase the risk of pigmentation changes and adverse reactions but you will not be able to treat a client with a suntan. The consultation and post-treatment advice should stress this to your client.

3.15 What aftercare advice should I give my client?

You must stress to your client the importance of post-treatment care and ideally you will have an aftercare leaflet that your client can take away with them.

Because the treatment puts **light energy** into the skin it is important to advise your client not to do anything that will add to the sensation of heat or irritate the area, so most clinics and salons offer the following post-treatment advice to their clients:

- To cool the area with soothing gels, damp cotton pads or aloe vera if the hot sensation or feeling of warmth remains after treatment
- To avoid sun exposure in the treatment area and to always wear a high factor sun protection cream (SPF 15 or higher) after and between treatments
- To stop using sun beds and fake tanning products in the treatment area
- To stop waxing or plucking hairs in the treatment area
- To avoid hot baths, strong deodorants, heavily chlorinated swimming pools or vigorous exercise for 12 – 24 hours and not to use make-up in the treatment area for as long as can be avoided. After a treatment these things can irritate the skin and increase the sensation of heat and discomfort
- To contact the clinic or salon if they experience excessive blistering, crusting or swelling in the treatment area.



3.16 What is an adverse reaction to treatment?

It is well proven that **lasers** and **intense pulsed light systems** can both provide very effective hair removal treatments on clients with the appropriate hair and **skin type** when used in conjunction with the correct settings and **protocols**. But with any treatment there is always the potential for an adverse reaction and this is equally true for laser and intense pulsed light hair removal. This is why careful client selection and a good understanding of the principles and practice of hair removal are vital.

Complications following treatment are rare, but they can occur and a knowledge of how laser and intense pulsed light hair removal works tells us why adverse reactions are possible.

The target for treatment is melanin, which is found in the hair follicles and in the epidermis – making the skin sensitive to exposure from lasers and intense pulsed light systems. Successful treatment relies upon raising the temperature of the hair follicle high enough and for long enough to disrupt the hair growth cycle. This means we need a balance between the heat in the treated hair follicles and in the absorbing skin layers. This explains why the ideal combination for treatment is dark hair in a pale skin – the hair will strongly absorb the light compared with the skin – making the skin less susceptible to heat damage.

Adverse reactions to treatment can include:

- Excessive redness of the skin (erythema)
- Excessive localised swelling (perifollicular oedema)
- Excessive urticarial reactions
- Blistering – which may only be temporary but which indicates treatment settings are not appropriate
- Long term complications such as hyper or hypo pigmentation – tanned skin being at greater risk of pigmentary changes
- Scarring – which is rare – but clients must still be warned of the risks.

In the majority of cases, adverse reactions are short lived and do resolve – but time spent on client consultation and **informed consent** can be time well spent as it may help you spot potential problems before treatment begins. You can help to reduce the chances of an adverse reaction by taking a medical history to check for known contra-indications to treatment such as existing skin pigmentation disorders, a history of keloid scarring, use of photo-sensitising drugs such as St. John's Wort, suntanned skin.

Even when correct treatment parameters are chosen, adverse reactions can still occur but there are ways that you can reduce the chances of this happening. In particular:

Do not treat recently suntanned skin. A tanned client is likely to have a higher level of melanin in the skin and this may increase the chance of pigmentary changes or scarring. This is why your client information must stress the need to avoid sun exposure prior to and during a course of treatments.

Advise against post-treatment sun exposure. This can lead to an increased chance of adverse inflammatory and pigmentary changes.

Adjust the laser or intense pulsed light equipment settings to suit the treatment area. Areas that have a higher density of hair, eg, a dense beard area, will strongly absorb **light energy** which can create and retain significant heat in the skin. Appropriate settings and

active cooling can lessen post-treatment inflammation and discomfort.

Advise the client to avoid activities or substances that might increase post-treatment discomfort or irritation, for example: hot baths and deodorants.

You must know what to do if you have an adverse reaction during treatment – your protocols, policies or procedures must include these details. In particular you should have clear instructions about:

- How to recognise treatment-related problems
- What to do if anything goes wrong with treatment.

If your client does experience an adverse reaction it is important to respond quickly to any complaint. You may need to ask the client to return to the salon or clinic for assessment or to photograph the area, or you may need to refer the client on for further assessment, perhaps to a GP or dermatologist. If your client wants to complain about your service you must have a complaints leaflet or procedure that is readily available to them. If you receive a complaint you must acknowledge and respond to it as set out in the NCSC **National Minimum Standards**. Your client is also entitled to complain directly to the NCSC and your complaints leaflet or form must include their contact details.

Appropriate training on the laser or intense pulsed light system and a knowledge of equipment **specifications and variables** will help you understand why different settings must be used for different hair and skin types. Keeping careful and accurate records, including records of adverse reactions, is a requirement of the **National Minimum Standards**. An audit of your records may help you spot reasons or trends for adverse reactions and by taking appropriate measures – such as staff training, revising treatment protocols, having equipment maintained or **serviced** – you may reduce the likelihood of adverse reactions to treatment.

No one wants to harm a client – so make sure that your laser and intense pulsed light hair removal service includes:

- Careful client selection
- Suitable pre- and post-treatment advice
- Appropriate equipment
- Correct protocols, policies and procedures
- Accurate record keeping.

These things will help to reduce the chances of an adverse reaction to treatment and are the foundation for a safe and credible hair removal service.



4. Guidance on contra-indications

4.1 Are there any contra-indications for laser and intense pulsed light hair removal?

We know that treatments are most successful when there is a good contrast between the hair and skin colour, eg, dark coloured hair against a pale skin. But even a client with this ideal combination of hair and skin contrast may not be suitable for treatment. Experienced beauty therapists – even those without laser or intense pulsed light experience – will know that careful client selection is the key to successful treatment. In practice this means taking a full and accurate client history to identify factors that could be a **contra-indication** for laser and intense pulsed light hair removal treatment.

Essentially a 'contra-indication' means something that is opposed to, or working against, a particular treatment. Your salon or clinic

protocols will need to include the conditions, drugs or circumstances that will contra-indicate treatment. You will need to be able to identify contra-indications, whether referral to a GP is necessary or when alternative treatments are appropriate. This is why working with a medical practitioner can be extremely valuable and helpful. If you have developed your protocols in conjunction with a medical practitioner you may be able to consult them if you encounter contra-indications, particular drugs or medical conditions that are not known to you.

For the majority of salons and clinics, the following conditions, drugs or circumstances are typically contra-indicated:

Good contrast between hair and skin colour is the ideal combination. Darker skin types have a higher melanin content which absorbs the light energy and can increase the risks of side effects.



Guidance on contra-indications

Pregnancy	<ul style="list-style-type: none"> • Although treatment is not proven to be harmful to pregnant women it is better to advise your client to wait until after the baby is born before starting treatment.
Suntanned skin	<ul style="list-style-type: none"> • Do not treat suntanned skin as the increased level of melanin in the skin can cause unpredictable results including long term pigmentation changes. • Clients with artificial tans should not be treated until the product has completely faded from the skin.
Drugs or medications that cause photo-sensitisation	<p>Many drugs are known to be photo-sensitisers but usually at different wavelengths than those used for laser and intense light hair removal – even so you should still be very cautious if a client is taking drugs or medications you are not familiar with. Seek advice from your medical adviser or pharmacologist.</p> <ul style="list-style-type: none"> • Some drugs, including herbal remedies such as St. John's Wort, can react to light and cause unpredictable response to treatment. Known photo-sensitisers include certain antibacterials and antibiotics, antifungals, non steroidal anti inflammatories, cardiovascular drugs, diuretics and drugs containing retinoids.
Skin pigmentary conditions	<ul style="list-style-type: none"> • Clients with a history of melasma or vitiligo should not be treated. • Skin containing moles or pigmented nevi should be avoided or covered during treatment.
Keloid scars	<ul style="list-style-type: none"> • Clients with a history of keloid scarring are more at risk from disfiguring scars in the event of a treatment producing skin damage.

Guidance on contra-indications

Dermatological conditions	<p>A number of conditions may be contra-indicated, even if the conditions are being treated:</p> <ul style="list-style-type: none">• Active eczema, psoriasis or acne. In fact, do not treat any areas where the skin is broken.• Clients who are receiving steroid based treatments or oral retinoids should not be treated due to skin thinning effects and increased risk of post-treatment infection.• Clients who are suffering from connective tissue disorders such as scleroderma are contra-indicated.• Clients undergoing any form of photo therapy should not be treated as the laser or intense pulsed light treatment may cause pigmentation changes or interfere with the effectiveness of the photo therapy treatment.
Epilepsy	<ul style="list-style-type: none">• Although treatment is not proven to trigger an epileptic attack you should check with the client as to how well their epilepsy is controlled before you offer treatment.
Diabetes	<ul style="list-style-type: none">• Clients with diabetes that is well controlled and managed may be suitable for treatment. You should emphasise to the client the importance of them being prepared for treatment and having their medication or appropriate food available.
Herpes	<ul style="list-style-type: none">• Heat and light are known triggers for the herpes virus. Clients who regularly suffer from cold sores are recommended to have anti-viral products available should treatment trigger an outbreak. You should not treat any areas with active herpes infection.

Guidance on contra-indications

Coronary and blood pressure conditions	<ul style="list-style-type: none">• Some clients get very anxious about treatment and may experience an increase in blood pressure. Clients suffering from coronary conditions should not be treated.• Clients who suffer from fainting or giddiness are not necessarily contra-indicated, but you should monitor them closely, especially when they sit up after treatment or leave the treatment couch.
Allergies	<ul style="list-style-type: none">• Always check with your client as to whether they suffer from allergic reactions to the products or materials you may use, eg, latex or rubber based gloves, creams and gels.
Hair growth related problem	<ul style="list-style-type: none">• If your client is suffering from underlying conditions, such as Polycystic Ovarian Syndrome (PCOS) or Hirsutism, that affect hair growth you must set realistic expectations of treatment. 'Hair management' is a better way of describing treatment for those with hair growth related problems.
Blood related conditions	<ul style="list-style-type: none">• You must always be aware of the risks of infection from blood related conditions especially since treatment typically involves shaving the area to be treated and nicks and cuts are a possibility. It is recommended practice to wear gloves during treatment (refer to the National Occupational Standards).

Remember – the safest treatment is NO treatment. If ever you are in any doubt about providing a treatment seek advice or a second opinion.

Guidance on contra-indications

Permanent make-up and tattoos	<ul style="list-style-type: none">Do not treat over areas that have heavy or dark pigmentation as it may cause adverse skin reactions. Piercings/body jewellery – wherever possible remove piercings or body jewellery. Do not fire a laser or intense pulsed light beam on to reflective jewellery.
Implants	<ul style="list-style-type: none">It is generally accepted that implants, such as silicone implants, heart pace-makers, and artificial joints will not be affected by treatment but do ensure that your client is in good general health and fully recovered from any surgical procedures before offering treatment.

Illustrations of contra-indications



Herpes



Dermatological conditions



Skin pigmentary conditions



Keloid scars

Suntanned skin is one of the most common contra-indications and should not be treated. But don't forget that you must also advise your client to avoid the sun after treatments as well. The skin can become extremely sensitive to light and heat after treatment and cases of pigmentary changes have been recorded in clients who sunbathed after treatment. This sensitivity can last for as long as six months. Your aftercare leaflet should stress the need for high factor sun protection before, during and after a course of treatments.

Remember that consultation and **informed consent** are the opportunity to identify your client's history of medical or hair growth related problems, reasons for seeking treatment, their general health and wellbeing and whether they are appropriate and suitable for treatment. It is also essential that you use the consultation to set realistic expectations of what the treatment will, or will not, achieve – and checking for known contra-indications is an essential part of this process.



Courtesy of Dr. John Gray



5. Guidance on equipment and legal issues

5.1 What should I look for when buying a hair removal system?

Buying a system could be a very big investment and it is easy to feel overwhelmed with the amount of information you need to know. Even if you lease a system you must make sure you can cover the cost of the financial package from your treatments. The most important question is whether you feel you can trust your supplier and are confident doing business with them. You should think of it as a long term relationship and look for a manufacturer or supplier that will be there to support you – not just in the early days, but once your business is established and set to grow.

Make sure you do your research by contacting several manufacturers and suppliers,

visiting trade shows and exhibitions or other clinics that offer this service, identifying your customer needs and reading trade journals and magazines on the subject. Here are the type of questions you should be asking:

- What treatments can the equipment achieve?
- Are there any reported side effects or complications from using the equipment?
- How reliable is the equipment?
- Does the equipment meet the legal requirements and safety standards for laser and intense pulsed light equipment, eg, CE marking?
- Where is the equipment made and are spare parts readily available?

- What are the on-going equipment **service** or **maintenance** costs?
- Is an equipment loan available if my equipment fails?
- Will I be able to get software or equipment upgrades if they are available?
- Are finance options available and are they affordable?
- Will the supplier provide marketing or advertising materials to help you attract customers and build your business?
- Who else is using the equipment and what is their experience of the supplier and equipment?

Laser and intense pulsed light treatments offer fast and effective long term hair reduction and hair management.

- How do I look after the equipment and keep it running correctly?
- What clinical trials or research studies are available for this equipment?
- Does the equipment have the right **specifications** and variables or settings to treat different skin types?
- Does the system have built-in skin cooling on the handpiece or **beam delivery system**?
- How quickly (**pulse repetition rate**) can the pulses of light be delivered to optimise my treatment times?
- Are gels or creams needed to carry out a treatment?
- What are typical treatment fees and will I be able to generate sufficient income?
- How easily could the equipment be returned or sold if I decided not to continue with my hair removal service?
- How many treatments are recommended using the equipment?
- Is the system portable or easy to move and store within my clinic or salon?
- What training and support will the supplier provide?
- Are there any safety issues I need to know about eg, wearing **Personal Protective Equipment** (PPE) such as eyewear?



Courtesy of Jennifer R. Lloyd. Pictures provided by Optasure UK Ltd



Courtesy of Jennifer R. Lloyd. Pictures provided by Optasure UK Ltd

5.2 What is the difference between a laser and an intense pulsed light system?

The beam of light from a **laser** has some unique properties that make it different from other types of light sources such as the sun or a flash light. The differences are illustrated in the picture below.

Even though **intense pulsed light systems** are not lasers, they can do serious eye or skin damage. You must be trained to use the equipment properly and follow the safety rules and treatment **protocols** for your particular system.

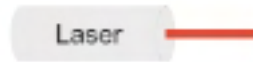
The **National Minimum Standards** (NMS) as set out by the Care Standards Act 2000, and the **National Occupational Standards** developed by HABIA are essential reading for those working with lasers and intense pulsed light systems. The National Occupational Standards developed by HABIA are produced by consultation with industry experts and are reviewed regularly to provide a useful reference for current best practice for beauty therapists wanting to learn to use laser and intense pulsed light systems. HABIA recommends that only beauty therapists who have qualified in electrolysis should progress to become laser and intense pulsed light practitioners for hair removal.



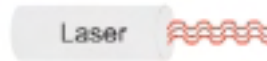
White light or intense pulsed light:
- emits a beam of many colours
- spreads out as it travels



White light or intense pulsed light:
- emits a non coherent beam



Laser light:
- emits a beam of a single colour
- travels in a narrow beam



Laser light:
- emits a coherent beam of waves
that travel in step or in phase

5.3 Why is there so much 'jargon' around lasers and intense pulsed light equipment?

Lasers and intense pulsed light systems are technical pieces of equipment so the language used to describe them and the treatments they offer can appear full of 'jargon'. But it is important that you understand some of the technical aspects of the equipment in order to select or use it correctly.

Manufacturers and suppliers of equipment should include the technical details and **specifications** of their products in their literature. If you can understand the specifications you will be able to make direct comparisons between equipment and not just rely upon the sales literature claims – essential if you intend to buy your own system.

For example, you should be able to recognise:

- What **wavelength** of light it emits
- How fast or how often the pulse is delivered (**pulse repetition rate**)
- How long the pulse of **light energy** lasts (**pulse duration**)
- How much light energy is delivered – the **fluence**
- The size(s) of the treatment beam or **spot size**.

These things are just as important as comparing reports or pictures of treatments using different equipment and getting to understand the terms can help you make objective comparisons between systems and treatments.

Your equipment supplier should be able to explain these terms to you in plain and simple language, and more importantly tell you why the different features are important.

There are also training providers that offer 'Core of Knowledge' training or study days and qualifications and these can be a useful way to learn the jargon and technical terms of laser and intense pulsed light hair removal.

You may also need to seek advice from specialists in laser and intense pulsed light safety (**Laser Safety Advisers**). These people should also be able to help you interpret that jargon and the technical specifications.

The **National Occupational Standards** developed by HABIA are an essential reference for beauty therapists wanting to learn to use laser and intense pulsed light systems and for salon owners wanting to specify competence requirements in, eg, protocols and job descriptions.

You will find a very helpful glossary at the end of this booklet – use it for a quick definition of many of the technical terms and jargon that go along with laser and intense pulsed light systems!

5.4 Are lasers and intense pulsed light systems dangerous and can I use them anywhere in my salon or clinic?

Many people think of **lasers** as powerful weapons that can cut through metal and flesh! Whilst some lasers can do these things, in reality they are used in many other ways: in supermarket barcode scanners, in CD players, for making the holograms on credit cards, for industrial machines and in laser surgery and eyesight correction.

Lasers are 'classified' (**Laser Classification** is from Class 1 through to Class 4) according to the potential harm that the laser beam can cause. The highest is Class 4 and these are the type typically used for medical and therapeutic treatments. The lasers used for hair removal are powerful devices and can cause skin burns and eyesight damage or set fire to materials if you do not use the equipment correctly. Class 4 lasers must be used carefully and this is why training and protocols are so important.

Intense pulsed light systems are not lasers because they emit a different type of **light energy** called **broad spectrum**. But they can still damage the skin and eyes if misused. So it is sensible that you apply the same safety precautions with an intense pulsed light as you do for a laser.

The **Care Standards Act 2000** and the **National Minimum Standards (NMS)** regard lasers and intense pulsed light systems as identical in their safety and training requirements.

This is why your clinic or salon must have a '**controlled area**' for the laser or intense pulsed light system. Only those authorised to enter this area and trained to use the equipment will be allowed to carry out treatments.

The controlled area:

- Will have clear and detailed safety rules which describe how to use the area correctly, any hazards you might be exposed to, who is authorised to use the equipment, what to do in the event of an accident
- Must have clear signs or warning lights showing when it is safe to enter or when the laser/intense pulsed light is on

Courtesy of Mappingray Park Clinic, Nottingham



Your laser or intense pulsed light controlled area must be a safe place for your staff and clients.

- Will have appropriate safety equipment such as **protective eyewear** as specified by your **Laser Protection Adviser** (LPA) or equipment supplier
- Should be well lit, well ventilated and a comfortable temperature to work in
- Should have suitable door locks or keypads so that no one can walk in during treatment
- Should avoid unnecessary reflective surfaces or objects around the treatment area
- Might require blinds or shutters over windows during treatments
- Should be well laid out with clear floor areas, workspace and suitable storage, eg, for protective eyewear, camera, cleaning materials
- Should allow easy access around the equipment for **maintenance** and **service**

- Should not be used to store flammable materials near the laser or intense pulsed light equipment
- Must meet fire and general health and safety requirements and provide a safe environment for all who enter.

HABIA produces an excellent Health & Safety Implementation Pack for Beauty Therapists. This provides many example forms for risk assessments, accident reporting and other safety checklists. These can easily be adapted to meet the criteria for the National Minimum Standards (NMS).

To help you plan and develop the **protocols** for your controlled area you may need to seek advice from specialists in laser and intense pulsed light treatments and safety. For safety advice you use the services of a Laser Protection Adviser (LPA) to:

- Identify potential hazards and safety issues
- Undertake a risk assessment
- Suggest safe ways of working to reduce any hazards or dangers
- Develop local rules for your controlled area(s)
- Select safety equipment such as interlocks, illuminated signs and eyewear
- Carry out regular safety audits and reviews of your working practices.

If you run a number of systems (including intense pulsed light equipment) or treatment rooms you may want to appoint a suitably qualified or competent member of staff to act as a **Laser Protection Supervisor** (LPS). The LPS can take the day-to-day responsibility for safety in the controlled area by ensuring that users follow local rules, procedures and protocols and remember to work safely.

To find out more about registration and the work of the NCSC contact:

The National Care Standards Commission
St. Nicholas Building
St. Nicholas Street
Newcastle Upon Tyne
NE1 1NB

Tel: 0191 233 3600

Fax: 0191 233 3569

E-mail:
enquiries@ncsc.gsi.gov.uk
Web: www.ncsc.gov.uk

Scotland

The Regulation of Care (Scotland) Act 2001 applies to the use of lasers and IPL.

Care Standards and Sponsorship Branch
2 ES

St Andrew's House
Regent Road
Edinburgh
EH1 3DG

www.scotland.gov.uk/health/standardsandsponsorship/

The Scottish Commission for the Regulation of Care ('the Care Commission') is responsible for monitoring specialist clinics in Scotland.

5.5 Are there any legal requirements for providing a laser or intense pulsed light hair removal service?

We all have a legal obligation to protect our health and safety whilst working and especially when using **lasers** or **intense pulsed light systems**. This is true whether we are an employer or an employee. Using lasers or intense pulsed light systems brings some additional requirements to the broad knowledge of applicable legislation and hygiene procedures you should already have from your daily practices.

The first step for providing hair removal treatments in England is to register with the **National Care Standards Commission** (NCSC) (or with the equivalent body in Scotland, Wales or Northern Ireland). It is a legal requirement, under the **Care Standards Act 2000**, for clinics or salons using lasers or intense

pulsed light systems, to be formally approved and registered to carry on the service they offer. If you do not have a Certificate of Registration from the NCSC you are operating illegally and liable to heavy penalties and fines.

'Registration' describes the process of formally approving persons and organisations to run a clinic or salon. Registration can be a lengthy and time-consuming process so you need careful planning and preparation of statements and documents relating to the services you provide. The NCSC will require '**evidence**' which may take the form of policies, procedures, certificates of training, or any other such documents that can show that:

- The staff and directors in your organisation are 'fit to practise'
- The establishment is financially secure with sound financial accounts and business plans
- The premises comply with Health & Safety requirements and those required for working safely with lasers and intense pulsed light systems.

The NCSC Inspectors will use this evidence to check that your facility and services comply with the Private & Voluntary Health Care (England) Regulations 2001 (PVHC Regulations) and meet the new **National Minimum Standards** (NMS).

Useful Documents

The documents you will need to be aware of for laser and intense pulsed light use are listed below. The first three documents can be downloaded free from www.ncsc.gov.uk

Care Standards Act 2000 (CSA2000)

A very comprehensive document covering all aspects of care from nursing homes to fertility clinics but also making reference to the use of lasers and intense pulsed light systems.

The Private & Voluntary Health Care (England) Regulations 2001

These Regulations give meanings and definition of various terms and requirements set out in the CSA2000. The Regulations give full details about the records you must keep, information you must give the NCSC and include the

'schedules' that tell you what to include in the 'Statement of Purpose' and 'The Patients' Guide'.

Independent Health Care National Minimum Standards (NMS)

These are the statements or criteria your clinic or salon must meet and against which your service is graded. They cover everything from client information leaflets through to the use of name badges.

The National Occupational Standards developed by HABIA are produced by consultation with industry experts and are reviewed regularly to provide a useful reference for current best practice for beauty therapists wanting to learn to use laser and intense pulsed light systems. HABIA recommends that only beauty therapists who have qualified in

electrolysis should progress to become laser and intense pulsed light practitioners.

The main British Standard applicable to salon and clinic laser safety is: BS EN60825-1:1994. Safety of Laser Products Part 1. Equipment classification, requirements and user's guide.



Wales 2000

The Care Standards Act (2000) applies to Wales and gives the Assembly powers to implement its requirements under the Care Standards Act 2000 (Commencement No 9) (Wales) Order 2002.

Care Standards Inspectorate for Wales National Assembly for Wales 4-5 Chain Wood Court Heol Billingsley Nant Garw Cardiff CF15 7QZ www.wales.gov.uk/subsocialpolicycarestandards/index.htm

Northern Ireland

There is currently no equivalent of the National Care Standards Commission in Northern Ireland. HABIA recommends that salon owners should consider working to the National Minimum Standards set by the CSA and use the National Occupational Standards as the basis for training and operation.

A number of other Standards are also relevant as summarised below:

BS IEC 60825-8:1999

Technical Report. Safety of Laser Products – Part 8: Guidelines for the safe use of medical laser equipment.

BS EN 60601-2-22: 1996

This Standard is a section of the Medical Electrical Equipment Standards – Part 2, Particular Requirements for Safety, Section 2.122: Specification for Diagnostic and Therapeutic Laser Equipment.

BS EN 207:1994

Specification for Filters and Equipment Used for Personal Eye-Protection Against Laser Radiation – normal use safety eyewear

British and European Standards are available on line from www.bsonline.techindex.co.uk or may be available to order from your local library.

Guidance Notes

There are a few guidance documents produced for particular industries but only one relevant to laser/intense pulsed light applications:

Medical Applications

'Guidance on the Safe Use of Lasers in Medical and Dental Practice' produced by the Medical Devices Agency.

As well as registering with the NCSC and meeting the National Minimum Standards you will need to meet general health and safety requirements and employment laws.

Remember that legislation changes regularly and whether you are an employer or employee you should keep abreast of these changes to safeguard yourself. Belonging to professional organisations and subscribing to trade journals and magazines is a good way to keep

yourself up-to-date with legal requirements.

Other Useful Documents

HABIA produces an excellent Health & Safety Implementation Pack for Beauty Therapists. This explains many of the regulations listed below and provides example forms for risk assessments, accident reporting and other safety checklists. Here is a summary of other laws and regulations that you should be aware of and how they might affect your clinic or salon:

The Health & Safety at Work etc Act 1974

This Act sets out the responsibilities of the employer and employee.

The employer has a duty of care to protect the health, safety and welfare of everyone who might be affected by the work of the clinic or salon.

Duties of an employee include: following safety rules and regulations, co-operating with health and safety matters, taking care of themselves and others and not misusing or abusing safety equipment.

A number of Regulations have been issued under the Health & Safety at Work Act and the main regulations that could be applied are listed below:

Control of Substances Hazardous to Health Regulations 1998 (COSHH)

The main requirement of these Regulations is that you must carry out an assessment of the risk to health from substances you use in the clinic or salon. This will include any particular materials for cleaning laser or intense pulsed light equipment.

Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 1995 (RIDDOR)

Requires you to record accidents that might occur. Certain events such as a death, serious injury, specific diseases etc, must be reported to the Health & Safety Executive.

Electricity at Work Regulations 1989

All electrical equipment used in the clinic or salon must be safe and maintained to prevent danger. This regulation also applies to lasers and intense pulsed light systems. Keep your equipment regularly serviced and well maintained.

Management of Health & Safety at Work Regulations 1999

These Regulations overlap with much other safety legislation. Their basic purpose is to ensure that employers assess the risks to their employees (and to others) and, where appropriate, take steps to reduce or eliminate those risks.

Health & Safety (Display Screen Equipment) Regulations 1992

If a computer is an integral part of a laser or intense pulsed light system these Regulations might apply depending upon how much time is spent at the keyboard. However, the Regulations can also be considered to represent 'good practice'.

Protective eyewear is specifically designed for a particular type of laser or intense pulsed light system. If you have different systems in your clinic you must have the correct eyewear for each system. Make sure your eyewear is clearly labelled and ready for use.

You should be able to get advice on protective eyewear from your Laser Protection Adviser or your equipment supplier.

Provision and Use of Work Equipment Regulations 1998 (PUWER)

'Work equipment' is broadly taken to mean everything from hand tools to lasers and intense pulsed light systems. Every employer must ensure that work equipment is suitable for its purpose and used for that purpose. When installing new equipment you must also think about any health and safety risks it might have. Equipment must be properly maintained and equipment maintenance logs kept up-to-date.

If any equipment involves a specific risk or risks then its use, service or repair must be restricted to suitably trained and authorised persons – which does include lasers and intense pulsed light systems. If you supervise or use this equipment you must have health and safety information and written instructions such as safe

operating instructions, and a hazard and risk assessment.

Workplace (Health, Safety and Welfare) Regulations 1992

These Regulations apply to the workplace. It must be clean, maintained, have safety equipment such as emergency lighting, fire protection, etc. There should be good lighting, adequate working space, appropriate seating if you sit down at work.

Manual Handling Operations Regulations 1992

More than a quarter of the accidents reported each year to the enforcing authorities are associated with manual handling. This Regulation requires employers to carry out an assessment of each employee's ability to carry or move equipment. They should also provide training on safety working practice.



The Regulations also deal with domestic things such as toilet or changing facilities, rest areas and facilities where employees can eat.

Personal Protective Equipment at Work Regulations 1992

Personal protective equipment (PPE) is needed for both lasers and intense pulsed light systems. Under the PPE regulations it must be provided free of charge, must fit properly and give adequate protection.

PPE must be maintained, cleaned and replaced as necessary. When you are not using the PPE it must be properly stored away. Staff must be given proper information about PPE, the risks the PPE is designed to avoid and how to use it and look after it.

Duties are placed on both the employer and the employee to ensure that any PPE is actually used and in the correct manner. Any loss or breakage of PPE must be reported immediately to the employer.



*Visit the **HABIA** website for more information about Health & Safety in the Salon Environment and details about the Health & Safety Information Pack for Beauty Therapy.*



5.6 How can I show that I am meeting the National Minimum Standards?

The **National Minimum Standards** (NMS) issued by the NCSC are the statements or '**criteria**' that your clinic or salon must meet and against which your service is graded. The **PVHC Regulations** which support the **Care Standards Act 2000** give full details of all the requirements you must meet to be granted registration – and without registration you will be working outside the law.

You will need to take a careful look at everything you do in your clinic or salon, you will need to think about health and safety, about how you recruit people, about the services you offer, the information you give your clients, the training for your staff, and the facilities you have available.

The best way for you to demonstrate compliance is to keep very thorough and careful records of your procedures and policies. This is your '**evidence**' in support of the way the clinic is run and the service it provides. Evidence can include: written policies, **protocols**, client records, client information leaflets, equipment **maintenance** logs, training certificates, records of meetings, etc.

You will have to keep certain records and documents for the NCSC inspectors to see at any time. In particular:

- Client records that include name and address, date of birth, marital status and other general details.

- A laser or intense pulsed light register or book that must be completed each time you use the equipment. This register must show: the client name, the date and nature of the treatment, the name of the laser or intense pulsed light practitioner and any accidents or adverse incidents.
- A register of any mechanical or technical equipment you use along with the treatment – this could include a smoke evacuator or a skin cooling device. This register must show the date of purchase and installation of the equipment and any maintenance schedules you have for it.

- Reports or records such as: any serious injury or death of a client, outbreak of infectious diseases, allegations of misconduct that cause actual harm to a client or staff in the clinic or salon.
- A record of any shift work and the actual hours worked by staff.
- A record of any person who uses a laser or intense pulsed light system in the clinic or salon, including medical practitioner's granted permission to use the equipment.
- Client records – which need to be kept for up to eight years depending upon the age of the client when they received their last treatment.

If you collect your evidence together and cross reference it to

the National Minimum Standards you will be able to see whether your existing policies and procedures meet the criteria. In some cases you might just need to record what you are already doing, but for other areas you may have to develop new policies or working practices.

This is how the National Minimum Standards are set out: each 'Standard' has an 'Outcome' and 'Assessment Criteria'. For example, Core Standard C2 is all about Patient Centred Care and it makes reference to staff identification badges:

OUTCOME – The treatment and care provided are patient-centred.

CRITERIA 2.9 – Staff wear identification badges showing name and position held.

Your clinic or salon might already have staff name badges and staff are expected to wear them – but you probably won't have anything written down about name badges. A simple statement, or 'policy' that all staff must wear badges showing name and position will provide the evidence of compliance against this particular National Minimum Standard – obviously you must then make sure that staff wear their badges.

The **National Occupational Standards** developed by HABIA are an excellent reference to check that your current working practices are up-to-date and correct. These have been developed with the National Minimum Standards in mind, so you can be sure they represent recommended practice.



5.7 What training do I need to carry out treatments?

Anyone who uses a **laser** or **intense pulsed light system** will need to show **evidence** that they meet the **National Minimum Standards (NMS)** of caring for clients and using equipment correctly. You do not need to be a registered health care professional to provide treatment but you must be appropriately trained and able to follow written **protocols**.

HABIA has produced **National Occupational Standards** for beauty therapists using laser and intense pulsed light systems for hair removal and these standards represent current best practice. The skills and knowledge of a beauty therapist qualified in electrolysis provide an excellent basis for learning to use laser and intense pulsed light systems for hair removal. HABIA recommends that only beauty therapists who

have qualified in electrolysis should progress to become laser and intense pulsed light practitioners.

Clinics and salons in England wanting to offer laser and intense pulsed light hair removal must be registered with the **National Care Standards Commission (NCSC)** who inspect the premises, equipment and those using the equipment.

You will have to prove that:

- Clients receive treatment using lasers and intense pulsed lights from competent operators and in accordance with appropriate procedures.
- Clients receive treatment from appropriately trained operators.
- The environment in which lasers and intense pulsed light systems are used is safe.

Inspectors will want to know what training you have received for the equipment you are using. They will expect to see evidence of your training, that it was delivered by a reputable provider, that it was at an appropriate level and that it included:

- The characteristic features of light from lasers and intense pulsed light sources.
- Hazards or dangers from equipment that goes wrong.
- How to maintain and look after equipment.
- The effects of light on the eye, skin and body tissues.
- How to work safely, including understanding local rules and working in a **controlled area**.
- How to minimise risks in your workplace.
- What to do in the event of an adverse incident.

You can ask your equipment supplier or other reputable training providers for training. Ideally it should include some form of assessment or test – this can be useful to identify your staff training needs and help you plan future training sessions.



Remember that you may also need to attend or facilitate update training or study days. These could be held regularly or when new techniques, protocols or equipment are introduced. If you change anything of significance in your working practice you should document it and make sure that everyone involved knows about and understands the changes.



5.8 Do I need a medically qualified person working with me?

Clinics and salons using a laser or intense pulsed light system must be registered with the **National Care Standards Commission** (NCSC). The NCSC inspectors will assess your service and facility against the **National Minimum Standards** (NMS) and against the Private and Voluntary Health Care (England) Regulations 2001 (**PVHC Regulations**).

One requirement from the PVHC Regulations is that the facility must have in place:

"...a professional protocol drawn up by a trained and experienced medical practitioner or dentist from the relevant discipline in accordance with which treatment is to be provided, and is so provided." (Regulation 42)

This does not necessarily mean that you must have a medically

qualified person working in your salon or clinic, but you will be expected to show that you are following appropriate **protocols** and procedures. More importantly is that these protocols have been developed by people with appropriate knowledge, skills and experience in laser and intense pulsed light hair removal.

Many equipment manufacturers and suppliers provide training or instruction manuals that include treatment parameters or treatment protocols – some even have built-in default treatment settings in the computer software of the equipment. These parameters are usually developed through clinical trials and studies when the equipment is being designed or tested.

The reason why it is useful to establish a good working relationship with a medically qualified person is in the event of an adverse reaction to treatment that might require medical attention. Ideally you would be able to refer your client to the medical practitioner that has developed your protocols and therefore is aware and familiar with your practice and procedures.

Some hair removal salons and clinics appoint a medical adviser or consultant to oversee their protocols and procedures, for which they may expect a fee. This is an ideal way to ensure that your service has medical support and is likely to meet the legal requirements of the **Care Standards Act** and supporting PVHC Regulations. Such medical advisers or consultants may

provide advice and guidance on treatment parameters, identify dermatological conditions or contra-indications, take client referrals, treat adverse reactions and generally oversee clinical practice. This might be through regular meetings or visits from the medically qualified person or via a telephone service to answer dermatological or medical history queries.

Whether you have the support of a medical practitioner or not, it is a legal requirement that any person who delivers the treatment is appropriately trained and that treatments are given in a safe environment. The National Minimum Standards set out the criteria for this.

If you follow protocols provided by the equipment manufacturer or supplier you must check that they meet the National Minimum Standards requirements for a protocol (see Section 4.9)



6. Future Developments

6.1 What new or future treatments might I be able to offer?

This is an exciting time for beauty therapy related **laser** and **intense pulsed light** treatments – with new equipment, techniques and therapies being continually developed. The **National Occupational Standards** developed by HABIA currently set out the best practice for qualified beauty therapists wishing to become laser and intense pulsed light practitioners for hair removal treatments and photo-rejuvenation.

Photo-rejuvenation is an innovative new procedure for face and body claimed to improve the appearance of photo-aged skin, remove age spots (sun-induced freckles), most benign brown pigments, and redness caused by broken capillaries. The treatments typically use **broad spectrum** light to treat the face, chest, neck and hands – virtually anywhere that sun damage shows. The light is delivered through a smooth, flat glass handpiece which is placed over a layer of gel spread on to the skin. A course of treatment typically consists of four to six treatments administered to the whole face, chest, neck or hands, spaced at three week intervals.

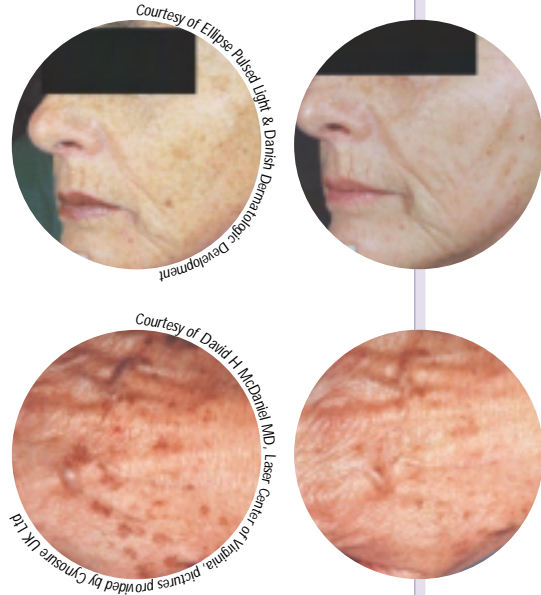
It is described as a ‘non-invasive’ technique that also claims to reach deep into the skin to stimulate collagen to provide a rejuvenated effect on skin appearance and complexion. Manufacturers of the equipment claim the process is ideal for clients with active lifestyles because the procedure requires no downtime and produces few side effects. Because the skin improvement is subtle, the client’s skin does not appear obviously treated – hence the ‘no downtime’ description of photo-rejuvenation. With many of these more ‘subtle’ treatments it is necessary to set realistic outcomes and advise your client that a course of treatments will be necessary and that the rejuvenation effects may not be permanent.

This is a relatively new development and dermatological and aesthetic studies are being undertaken to clarify the proper use and expectations of photo-rejuvenation.

The legal and safety requirements for carrying out photo-rejuvenation are the same as for laser and intense pulsed light hair removal treatments. Your facility will need to be registered with The **National Care Standards Commission** (NCSC) and must meet the **National Minimum Standards** (NMS).

Because the range of treatments and equipment is constantly being increased and improved, make sure you stay up-to-date and knowledgeable by joining professional organisations, subscribing to trade journals and newsletters, attending training or study days and exhibitions. As technology advances and professional standards are developed to meet the current and future training needs, you may find many new skin therapy treatments using lasers or intense pulsed light equipment that are perfectly suited to the knowledge and skills of qualified beauty therapists!

Photo-rejuvenation is a new light therapy for improving the appearance of sun damaged or photo-aged skin.



7. Glossary of Laser & Intense Pulsed Light Terms

Absorbed/Absorption	The 'taking in' of light energy. Absorption of light energy can produce heating effects in the tissues which can interrupt the hair growth cycle.
Beam delivery system	Describes the way that the laser or light beam is 'delivered' to the client. Methods include fibre optics or an articulated arm with a 'handpiece' or light guide.
Broad spectrum light	Light that contains a wide range of 'colours' or wavelengths. The sun and intense pulsed light systems produce broad spectrum light.
Care Standards Act 2000	An Act of Parliament that came into effect in April 2002 (in England and Wales). The CSA2000 replaced the Nursing Homes Act 1984 which previously regulated the use of lasers. CSA2000 was introduced to improve the old Act and to bring the management, interpretation and inspection under the authority of the National Care Standards Commission (NCSC).
Chromophore	A 'target' such as melanin, water or haemoglobin that can absorb light of the appropriate wavelength. The chromophore for hair removal is melanin in the hair follicle and possibly the stem cells in the bulge.
Coherent/Coherence	A property of laser light that describes the way that the light waves travel 'in phase' or in step with each other.
Contra-indication	'Contra' – meaning opposed or against. 'Indication' – meaning the basis or rationale for using a particular treatment. Contra-indications for hair removal treatments may include: pregnancy, certain skin disorders, use of certain medications or drugs or certain medical conditions.
Criteria	See National Minimum Standards (NMS).

Electromagnetic spectrum	The range of energies or radiations that include gamma rays, X rays, ultraviolet, visible, infrared and radio waves. Lasers and intense pulsed light systems used for hair removal typically emit beams in the visible or infrared part of this spectrum.
Evidence	Information that you can present to an NCSC Inspector to demonstrate your compliance with the National Minimum Standards. Evidence can include: written policies, medical protocols, client records, client information leaflets, equipment maintenance logs, training certificates, or records of meetings.
Fluence (J/cm²)	The amount of light energy delivered over a given treatment area. Quoted as Joules per square metre (J/cm ² or J/cm ²). It may also be referred to as energy density.
Hairdressing And Beauty Industry Authority (HABIA)	The Government recognised body for standards setting within the hairdressing and beauty therapy industries. HABIA develops National Occupational Standards in consultation with industry experts to meet current and developing employer requirements. Contact HABIA via: email: enquiries@habia.org.uk or visit their website: www.habia.org.uk
Informed consent	Voluntary consent given by a person (or responsible proxy) for participation in a treatment regime after being informed of the purpose, methods, procedures, benefits and risks of the treatment.
Intense Pulsed Light (IPL) System	A system that uses a powerful flash of 'light' of broad spectrum, non coherent light. Filters are used in front of the flashlamp to remove unwanted wavelengths of light and pass through only those needed for treatment. Light from an intense pulsed light system can be used to target a range of chromophores in the skin making them suitable for hair removal and/or skin photo-rejuvenation.

Interlock connector	A socket on a laser/intense pulsed light system that allows a switch (interlock) to be connected to a door/entrance. Opening the door will pause the laser/intense pulsed light system.
Laser	An acronym that describes the way that laser light is produced: Light Amplification by the Stimulated Emission of Radiation. A device which amplifies light and usually produces an extremely narrow beam of a single wavelength (one colour).
Laser Classification	The 'class' allocated to a laser (not intense pulsed light systems) from BSEN60825-1:1994. Medical laser devices are typically Class 4 (the highest classification) carrying the greatest risk of eye and skin injury.
Laser Protection Adviser (LPA)	A competent person able to evaluate, monitor and enforce the control of laser safety hazards.
Laser Protection Supervisor (LPS)	A competent person to help with local supervision in the controlled area to ensure that local rules, policies or procedures are implemented. Often the LPS is the practitioner responsible for the use of the laser or intense pulsed light equipment or a member of staff closely involved in the work.
Laser/Intense Pulsed Light Controlled Area	An area where laser/intense pulsed light safety controls must be applied. The controlled area is often the treatment room and this should not be readily accessible to unauthorised staff/clients.
Light Energy	With a laser or intense pulsed light system this refers to the emitted beam of light and its capacity to do work. Light is radiation that causes the sensation of vision. Even though some lasers and intense pulsed lights emit invisible radiation it is generally still referred to as light or light energy. Energy is expressed in Joules (J). Energy is the product of power (W) multiplied by pulse duration (typically milliseconds). See also Fluence.

Light Guide	The glass or quartz block used to deliver the light energy to the treatment site. Light guides are most commonly used on intense pulsed light systems.
Local Rules	Local Rules should be written for each specific application of a laser or intense pulsed light equipment. They should include details about the actual equipment in use, hazards or risks from the equipment, details of authorised users, methods of safe working and normal operating procedures, contact details of the LPA or LPS, accident procedures, safety checks and use of any safety equipment. Your LPA should be able to support you in writing and implementing local rules.
Maintenance (of equipment)	Tasks undertaken by the practitioner to maintain the correct performance of the system. This can include handpiece cleaning, cooling water top-up, cleaning display screens, checking filters.
Marking-out	The use of coloured pens or inks touched lightly on the skin to show the region or limits of the treatment area. Care must be taken to choose the correct inks/colours so that the beam does not react with the inks and cause skin damage.
Maximum Permissible Exposure (MPE)	The level of radiation (light) to which, under normal circumstances, a person may be exposed without suffering adverse effects, eg, how much laser light can be withstood by the eye or skin before tissue damage occurs.
Monochromatic	Light that contains a single wavelength or 'colour'. Laser light is described as monochromatic.
National Care Standards Care Commission (NCSC)	The NCSC is the body responsible for the regulation and inspection of social services and the private and voluntary health care sector in England. Equivalent bodies will be created in Scotland, Wales and Northern Ireland. The NCSC will inspect against the National Minimum Standards to make sure the clinic or salon delivers the service they claim to offer.

National Minimum Standards (NMS) – Independent Health Care

These are the statements or criteria that your clinic or salon must meet and against which your service is graded. There are 32 Core ('C') Standards: 'C' standards

- C1 Information Provision
- C2 – C7 Quality of Treatment & Care
- C8 – C13 Management & Personnel
- C14 – C16 Complaints Management
- C17 – C19 Premises, Facilities & Equipment
- C20 – C28 Risk Management Procedures
- C29 – C31 Records & Information Management
- C32 Research

There are also 'Service-Specific Standards' which include the use of laser and intense pulsed light systems:

P1-3 Prescribed Techniques & Technologies

Each 'Standard' has an 'Outcome' and 'Assessment Criteria'. For example: Standard C1

OUTCOME – Patients receive clear and accurate information about their treatment and its likely costs.

C1.1 The establishment or agency has available for prospective patients and their families a patients' guide expressed in clear, relevant language
.....etc

All of the Core and Laser/Intense Pulsed Light Standards must be met in order to comply with the regulations.

Criteria are the individual elements of the NMS against which your service is judged and graded.

National Occupational Standards	<p>The Hairdressing And Beauty Industry Authority (HABIA) is recognised by Government as the standards setting body for the hairdressing and beauty therapy industries. National Occupational Standards are developed by consultation with industry experts and are reviewed regularly to ensure they meet current and developing employer requirements. These standards have various uses:</p> <p>Awarding bodies add assessment mechanisms to create qualifications;</p> <p>Employers incorporate them in appraisal systems, job descriptions and training programmes;</p> <p>Training providers develop learning materials and programmes to meet them;</p> <p>Manufacturers and suppliers base manuals and instructions on them.</p>
Personal Protective Equipment (PPE)	<p>Safety equipment designed to protect the client, practitioner and others from laser or light beams and other hazards in the controlled area. It may include protective eyewear, gloves, laser masks, overalls, etc.</p>
Photo-rejuvenation	<p>A non-ablative procedure using low level light energy to rejuvenate and improve the appearance of photo-aged skin, remove age spots (sun induced freckles), most benign brown pigments and redness caused by broken capillaries. Light based treatments may be combined with chemical peels or micro-dermabrasion to increase the effectiveness of treatment. Treatments typically use broad spectrum light to treat the face, chest, neck and hands – or anywhere that sun damage shows. A course of treatments typically consists of four to six treatments administered at approximately four week intervals. May also be known as photo facial or skin rejuvenation.</p>
Protocol	<p>A precise and detailed plan that is followed when undertaking a treatment. It must set out the necessary pre-treatment checks and tests, the manner in which the procedure is to be applied, the acceptable variations in the equipment settings used and when to abort a treatment.</p>
Protective eyewear/goggles	<p>Glass or plastic goggles designed to protect the eyes against accidental exposure to light energy. They must be specifically matched to the wavelength and output of the laser/light system in order to provide effective protection.</p>

Pulse delay	A short delay, often variable, between the emitted pulses of light. Typically quoted in milliseconds (ms).
Pulse duration	The duration or 'length' of the pulse of light energy. Hair removal typically uses pulses that last for milliseconds (ms). The pulse duration determines how the tissues of the skin and hair react to the light – ranging from heat damage through to total destruction of cells.
Pulse repetition frequency (PRF) or pulse repetition rate	The rate or 'frequency' at which pulses of light energy are emitted. Measured in Hertz (Hz).
Private & Voluntary Health Care (England) Regulations 2001 – (PVHC Regulations)	These Regulations give meanings and definition of various terms and care requirements set out in the CSA2000. The Regulations give full details about the records you must keep, information you must give the NCSC and include the 'schedules' that tell you what to include in the 'Statement of Purpose' and 'The Patients' Guide'.
Radiation	The process of emitting energy as waves or particles. Radiation is the correct term for invisible wavelengths that do not cause the sensation of vision.
Selective Photothermolysis	A theory used to describe the selective absorption of light energy by a target chromophore without damaging the surrounding tissue.
Service (of equipment)	Tasks normally undertaken by a specialist or service engineer to ensure product performance. This can include: flashlamp replacement, calibration, realignment, changing or cleaning optical parts.
Skin Types and Skin Classification	The Fitzpatrick skin classification was developed to predict a person's lifetime risk of developing skin cancer. This used a scale (typically I – VI) to judge how skin reacts to light, in particular whether it is likely to burn or tan. Most practitioners use a combination of hair and skin colour, eye colour and burn/tan response to determine the initial test patch and treatment settings. The HABIA website contains links for information about skin typing (www.habia.org.uk).

Specifications & variables	The controls or settings on a laser or light system that might be varied by the practitioner in order to deliver the correct amount of light energy in the right quantity and speed to bring about an effective treatment. Variables can include the size of the treatment spot, the pulse duration, pulse delay, the strength of cooling, pulse repetition frequency.
Spot size	The size of the beam used for treatment. Typically quoted in millimetres (mm). Circular beams refer to the diameter of the spot in mm, whereas intense pulsed light systems often have rectangular or square shaped beams. Some systems offer different spot sizes for treating larger or smaller areas. Larger spot sizes also allow deeper penetration of light energy into the skin. The area of the spot size is used in the calculation of fluence.
Test patch	A test or trial exposure of a small area of representative skin and hair. Used to determine optimum treatment settings and gauge the response of the skin (and client) to the light energy.
Thermal Relaxation Time (TRT)	A theory used to describe the time taken for a target chromophore to lose a given percentage of the heat caused by the absorption of light energy. Many systems allow the user to vary pulse duration to 'match' the TRT of different hair types and thickness for optimum treatment outcomes.
Wavelength	A term to describe the 'length' of a light wave measured between successive peaks or crests of the wave. Typically quoted in nanometers (nm) or micrometers (μ). Certain 'targets' within the skin are known to absorb energy of particular wavelengths – the basis of selective photothermolysis. The wavelength determines the 'colour' of the beam and the type of interaction with different materials.

8. National Occupational Standards

INTRODUCTION

The National Occupational Standards have been written by experts from the Laser and Light industry including trainers, manufacturers and practitioners. They have been written to reflect the skills and knowledge required for a Laser/Light practitioner in the workplace.

The National Occupational Standards have undergone consultation with industry to gain feedback and approval. Prior to their launch in February 2004 the standards will require final approval from government. Consequently, they are still in draft form and may be subject to minor changes leading up to their launch. Any such changes will be notified through the trade press, the HABIA website and email newsletter. You can register for this free by visiting www.habia.org.uk

There are two units - one for hair removal and one for photo-rejuvenation using light and laser systems.

Hair Removal Using Light or Laser Systems

UNIT OVERVIEW

This unit is about removing hair using light and laser systems. It stresses the importance of safe working practice and places emphasis on identifying and controlling hazards in the workplace. You will need to be able to identify hair and skin conditions and those clients suitable for light and laser system treatments.

The main outcomes of the unit are:

1. Select and maintain the light and laser controlled area for treatments
2. Consult with the client and prepare a treatment plan
3. Prepare for the treatment
4. Carry out hair removal treatments using light or laser systems
5. Provide aftercare and post treatment advice to clients.

PERFORMANCE CRITERIA

In order to perform this unit successfully you must:

1. Select and maintain the light and laser controlled area for treatments by:

- a) ensuring the selection of appropriate equipment meets treatment requirement and outcomes
- b) checking that equipment selection, specifications and variables are correct to carry out treatments
- c) checking the light/laser controlled area is set up to meet legal and safety requirements
- d) following manufacturers' and organisational instructions for the start up and shut down of equipment
- e) ensuring that systems are in place to prevent accidental exposure to yourself, the client and others within the controlled area
- f) confirming that equipment is safe and working correctly, faults are accurately identified and the necessary action is taken.

2. Consult with the client and prepare a treatment plan by:

- a) ensuring that the consultation procedure is conducted in a sensitive and supportive manner
- b) using assessment techniques which accurately identify the client's medical history, contra-indications, emotional and physical condition and expectations relevant to the treatment
- c) actively encouraging the client to ask questions and clarify any points of which they are unsure
- d) tactfully advising achievable outcomes of the treatment where clients have unrealistic expectations or hair colour and types that are unsuitable for treatment
- e) using assessment techniques which identify the condition and skin classification of the client
- f) explaining the physical sensation created by the equipment being used
- g) referring clients with contra-indications which are suspected of requiring medical treatment to their General Practitioner, prior to any treatment and without reference to a specific condition
- h) clearly and tactfully explaining to the client recognised contra-indications which prevent treatment
- i) recommending alternative treatments which are suitable for the client's condition and needs if contra-indicated for light/laser treatments
- j) clearly explaining and agreeing with the client, the projected cost, likely duration and frequency of treatment and recovery time
- k) ensuring that the treatment plan is discussed and agreed, an informed consent form is signed by the client and practitioner and where necessary a medical expert
- l) ensuring client consultation records are up-to-date, accurate and complete.

3. Prepare for the treatment by:

- a) preparing the light/laser controlled area to meet safety, legal, hygiene and treatment requirements, ensuring equipment is switched on and in stand by/safe mode
- b) ensuring your personal appearance meets accepted industry and organisational requirements
- c) wearing personal protective equipment (PPE) to avoid cross-infection and prevent accidental exposure to light/laser for yourself, the client and others within the controlled area
- d) making sure that environmental conditions are suitable for the treatment, the client and practitioner
- e) ensuring the positioning of the client and equipment permits effective access and minimises the risk to practitioner and discomfort to the client
- f) managing resources within the limits of the practitioner's authority
- g) preparing the client to meet the agreed treatment plan and safety requirements.

4. Carry out hair removal treatments using light or laser systems by:

- a) sanitising hands and wearing suitable gloves prior to treatment
- b) maintaining hygiene and safety throughout the hair removal treatment
- c) cleansing, photographing and preparing the area to be treated to ensure it is clean and shaven according to treatment protocols
- d) marking out the treatment area accurately using the correct methods and equipment according to organisational requirements
- e) providing cooling methods according to skin classification and treatment protocols
- f) setting the light/laser variables according to organisational requirements
- g) switching and enabling equipment to ready/enable mode in order to carry out test patch/treatment after ensuring protective eyewear and other safety procedures are in place
- h) carrying out the test patch ensuring safety procedures are in place
- i) assessing the outcome of the test patch, as necessary, to determine the suitability for treatment
- j) ensuring the hand piece/scanner are used at the correct angle and pressure according to treatment protocols
- k) stretching and manipulating the skin where necessary, according to treatment protocols
- l) delivering the light/laser pulse or beam according to manufacturers' instructions and treatment protocols
- m) assessing the skin and client response to determine suitable reactions and avoiding adverse reactions

- n) adjusting variables as necessary, whilst monitoring skin and client response and discontinuing treatment where adverse reactions occur
- o) checking the client's wellbeing and giving on-going reassurance where necessary
- p) ensuring position and posture whilst working minimises fatigue and risk of injury to yourself and the client
- q) checking light/laser variables throughout treatment and making any necessary adjustments
- r) ensuring the treatment is carried out within a commercially acceptable time
- s) concluding treatment by returning the light/laser system back into stand by/safe mode
- t) disposing of sharps and waste to meet legal and organisational requirements.

5. Provide aftercare and post treatment advice to clients by:

- a) ensuring the treated area is cooled and soothed using suitable cooling methods
- b) taking post treatment photographs according to organisational requirements
- c) ensuring aftercare advice and recommendations are accurate, constructive and based upon up-to-date knowledge of the treatment and products available
- d) ensuring client and equipment records are accurate, legible and complete
- e) ensuring the light/laser controlled area is left in a clean, safe and tidy condition
- f) giving the client accurate information on complementary services, home care products and the recovery process and likely duration.

RANGE

1. Equipment includes:

- a) laser, eg, laser diode, Alexandrite, Nd:YAG, Ruby
- b) broadband spectrum systems, eg, intense pulsed light.

2. Specifications and variables are:

- a) wavelength(s)
- b) energy
- c) power
- d) fluence
- e) pulse duration/width
- f) pulse delay
- g) pulse repetition frequency (PRF)
- h) spot size
- i) cooling devices
- j) hand pieces/beam delivery systems/scanners
- k) electrical requirements
- l) environmental requirements.

3. Light/laser controlled areas have:

- a) minimum reflective surfaces
- b) enclosed area
- c) suitable entry and exit points
- d) adequate fire precautions and suitable services, eg, provision for hand sanitisation.

4. Legal and safety requirements include:

- a) lighting
- b) ventilation
- c) waste management, eg, sharps
- d) room size and layout.

5. Systems are:

- a) engineering controls, eg, key switches, foot pedals, interlocks etc.
- b) administrative controls, eg, local rules, training, signage, issue of keys etc.
- c) personal protective equipment (PPE) eg, gloves, masks, eye wear.

6. Clients are:

- a) male
- b) female.

7. Assessment techniques are:

- a) questioning
- b) observing
- c) touching.

8. Hair colour and type include:

- a) colour, eg, dark, medium, pale
- b) type, eg, vellus, terminal, ingrown.

9. Skin classifications include:

- a) Fitzpatrick or ethnic skin classification systems
- b) Skin condition, eg, healthy/normal, combination, dry, oily.

10. Consultation records (including treatment plan and record cards) cover:

- a) informed consent form, eg, previous hair removal treatment history, medical history, emotional and physical condition, etc
- b) treatment record
- c) photographic evidence, eg, pre and post treatment including correct labelling.

11. Environmental conditions are:

- a) lighting
- b) heating
- c) ventilation
- d) general comfort.

12. Resources are:

- a) tools and equipment
- b) products and consumables
- c) time
- d) people/staffing.

13. Areas to be treated are:

- a) axilla (under arms)
- b) face – chin, upper lip
- c) bikini line
- d) back
- e) legs
- f) chest/breast
- g) abdomen
- h) other areas, eg, fingers, toes, neck, ear lobes, buttocks, arms.

14. Treatment protocols must cover:

- a) technique
- b) pre and post treatment
- c) recognition of treatment-related problems
- d) procedure if anything goes wrong during and after the treatment
- e) permitted variation on machine variables
- f) procedure in the event of equipment failure.

15. Reactions include:

- a) client
- b) smell
- c) erythema
- d) oedema
- e) frazzled hair.

16. Cooling methods are:

- a) cooling gel
- b) water soaked gauze
- c) cold air
- d) ice packs
- e) laser/light cooling heads.

17. Aftercare advice includes:

- a) avoidance of sunlight, sunbeds and fake tanning products, touching the treated area, exposure to heat treatments, wearing of restrictive clothing, perfumed and chemical based products
- b) use of aftercare products including high factor sun creams
- c) hair management, eg, avoidance of waxing, plucking, bleaching etc. between subsequent treatments.

KNOWLEDGE AND UNDERSTANDING

To perform this unit successfully, you will need to know and understand:

Organisational and legal requirements

1. your responsibilities under current relevant health and safety legislation, standards and guidance, eg, the Care Standards Act, the Health & Safety at Work Act (and any other relevant legislation)
2. the importance of the guidance and detail listed in the MDA document (Guidance in the safe use of lasers or medical and dental practice) and subsequent amendments, eg, signage, training requirements
3. the importance and reasons for sanitising your hands and wearing personal protective equipment (PPE)
4. why it is important to maintain standards of hygiene and the principles for avoiding cross-infection
5. the importance of correct client positioning to minimise potential discomfort and injury to yourself
6. the importance of avoiding work-related injury, eg, repetitive strain injury (RSI), back injury, contact with chemicals
7. the importance and reasons for keeping records of treatments
8. the importance of the correct storage of client records in relation to the Data Protection Act
9. the importance of producing high quality photographic evidence (before and after treatment) in line with organisational practices and emerging industry trends
10. how to minimise and dispose of waste from treatments
11. why it is important to complete services in the given time
12. principles of quality assurance
13. the light/laser controlled area practices and policies
14. the importance and reasons for adhering to organisational and treatment protocols for treatment procedure, clinic management, client consultation, record keeping, waste management, light/laser safety, aftercare procedures, etc.

Client consultation

15. how to use effective communication and consultation techniques
16. the contra-indications that may affect treatment, including; suntanned skin, pregnancy, some herbal remedies, active herpes simplex, active impetigo, active eczema, active acne, photo-sensitive medication, keloid scars, tattoos in the treatment area, psoriasis in the treatment area, certain circulatory conditions, inappropriate hair type and colour
17. the conditions that may require medical approval for treatment (eg, moles and pigmented lesions, insulin controlled diabetes, epilepsy, haemophilia)
18. the importance of, and reasons for, not naming specific contra-indications when referring clients to a general practitioner
19. why it is important to maintain clients' modesty and privacy
20. the importance of understanding the factors that make certain clients less suitable for light/laser treatment
21. the importance of considering the client's physical and emotional conditions, previous treatment, sun exposure, reaction and medical history
22. the importance of identifying the client's skin classification using the Fitzpatrick and ethnic colour scales to predict how a client may react to light
23. the importance of and gaining informed consent
24. the importance of using test patches and how to carry them out to determine client suitability for treatment
25. how to recognise an adverse reaction following a test patch/treatment, ie, skin greying or whitening, excess erythema, blistering, pigmentary changes, excessive discomfort
26. the knowledge of treatments that could be given in conjunction with/after light/laser treatment.

Preparation for treatment

27. how to prepare consultation records covering: a) informed consent form (ie, previous hair removal treatment history, medical history, emotional and physical condition, suntanning history, skin classification, pigmentation, client signature, practitioner's signature, client expectations); b) treatment record (ie, area treated, practitioner's name, treatment method, time and duration, equipment settings, treatment outcome)
28. how to prepare yourself for carrying out the treatment
29. how to prepare the client for the treatment
30. how to position clients for treatments
31. the necessary conditions for a light/laser controlled area
32. how to produce and the significance of, photographic images pre and post treatment.

Anatomy and physiology

33. the principles of the endocrine system, the major endocrine glands, the hormone secreted and their actions (ie, pituitary, thyroid, para-thyroid, pancreas, adrenal, gonads)
34. the effect of malfunctions of the endocrine system on hair growth (ie, Polycystic Ovarian Syndrome [PCOS])
35. the structure and function of the skin (ie, epidermis, dermis and its appendages and subcutaneous layer)
36. how to identify common skin lesions and disorders (ie, eczema, acne, psoriasis)
37. the effects of UV light on skin (ie, tanning)
38. the structure of the hair and its follicle
39. the growth pattern of the hair and how this influences present and future treatments
40. the hair growth cycle (ie, anagen, catagen, telogen)
41. the causes of hair growth (ie, topical, congenital, systemic)
42. the definition of hair growth (ie, superfluous, hirsutism, hypertrichosis)
43. the principles of the circulatory and lymphatic system
44. previous hair removal methods and their effects on hair growth.

Treatment specific knowledge

45. the principles of light energy and how it interacts with skin and hair
46. differing types of light/laser equipment and their recommended use and application
47. why it is important to understand the variables and terminology of light/lasers in relation to treatment practice
48. the causes and hazards of accidental exposure to light/laser light
49. features and properties of light and light/laser beams
50. basic light/laser operation, eg, types of active media, production of laser beams
51. light-tissue interaction including effects of light/laser light on the eye and skin
52. the importance of questioning/assessing the client to gain information on their skin healing ability and rate
53. the knowledge of post treatment effects and the importance of clients avoiding sun exposure, heat treatments and vigorous physical activity
54. the importance of advising clients on effective hair management techniques.

Equipment and materials

55. how to prepare and use the equipment and materials for the treatment
56. methods of sanitising equipment
57. how to maintain equipment and materials in a clean and hygienic condition
58. procedural and associated hazards relating to light/laser use
59. the principles of MPE (Maximum Permissible Exposure) and the selection of protective eye wear.

National Occupational Standards

Carry Out Photo-rejuvenation Using Light or Laser Systems

UNIT OVERVIEW

This unit is about using light and laser systems for photo-rejuvenation. It stresses the importance of safe working practice and places emphasis on identifying and controlling hazards in the workplace. You will need to be able to identify skin conditions and those clients suitable for light and laser system treatments.

The main outcomes of the unit are:

1. Select and maintain the light and laser controlled area for treatments
2. Consult with the client and prepare a treatment plan
3. Prepare for the treatment
4. Carry out photo-rejuvenation using light or laser systems
5. Provide aftercare and post treatment advice to clients

PERFORMANCE CRITERIA

In order to perform this unit successfully you must:

1. Select and maintain the light and laser controlled area for treatments by:

- a) ensuring the selection of appropriate equipment meets treatment requirements and outcomes
- b) checking that equipment selection, specifications and variables are correct to carry out treatments
- c) checking the light/laser controlled area is set up to meet legal and safety requirements
- d) following manufacturer's and organisational instructions for the start up and shut down of equipment
- e) ensuring that systems are in place to prevent accidental exposure to yourself, the client and others within the controlled area
- f) confirming that equipment is safe and working correctly, faults are accurately identified and the necessary action is taken.

2. Consult with the client and prepare a treatment plan by:

- a) ensuring that the consultation procedure is conducted in a sensitive and supportive manner
- b) using assessment techniques which accurately identify the client's medical history, contra-indications, emotional and physical condition and treatment aims
- c) actively encouraging the client to ask questions and clarify any points of which they are unsure
- d) tactfully advising clients of achievable outcomes of photo-rejuvenation where they have unrealistic expectations or the presenting condition is unsuitable for treatment
- e) using assessment techniques which identify the condition and skin classification of the client
- f) explaining the physical sensation created by the equipment being used
- g) referring clients with contra-indications which are suspected of requiring medical treatment, to their general practitioner prior to any treatment and without references to a specific condition
- h) clearly and tactfully explaining to the client recognised contra-indications which prevent treatment
- i) recommending complementary treatments which are suitable for the client's condition and needs
- j) clearly explaining and agreeing with the client, the projected cost, likely duration, frequency of treatment and likely recovery time
- k) ensuring that the treatment plan is discussed and agreed, an informed consent form is signed by the client and practitioner and, where necessary, a medical expert
- l) ensuring client consultation records are up-to-date, accurate and complete.

3. Prepare for the treatment by:

- a) preparing the light/laser controlled area to meet safety, legal, hygiene and treatment requirements, ensuring equipment is switched on and in stand by/safe mode
- b) ensuring your personal appearance meets accepted industry and organisational requirements
- c) wearing personal protective equipment (PPE) to avoid cross-infection and prevent accidental exposure to light/laser for yourself, the client and others within the controlled area
- d) making sure that environmental conditions are suitable for the treatment, the client and practitioner
- e) ensuring the positioning of the client and equipment permits effective access and minimises the risk to practitioner and discomfort to the client
- f) managing resources within the limits of the practitioner's authority
- g) preparing the client to meet the agreed treatment plan and safety requirements.

4. Carry out photo-rejuvenation using light or laser systems by:

- a) sanitising hands and wearing suitable gloves prior to treatment
 - b) maintaining hygiene and safety throughout the treatment
 - c) cleansing, photographing and preparing the area to be treated to ensure it is clean according to treatment protocols
 - d) marking out the treatment area accurately using the correct methods and equipment according to treatment protocols
 - e) providing cooling methods according to skin classification and treatment protocols
 - f) setting the light/laser variables according to organisational requirements
 - g) applying gel to treatment area according to treatment protocols
 - h) switching and enabling equipment to ready/enable mode in order to carry out a test patch after ensuring protective eye wear and other safety procedures are in place
 - i) assessing the outcome of the test patch, as necessary, to determine the suitability for treatment
 - j) ensuring the hand piece/scanner are used at the correct angle and pressure according to treatment protocols
 - k) stretching and manipulating the skin where necessary, according to treatment protocols
 - l) delivering the light/laser pulse or beam according to manufacturer's instructions and treatment protocols
 - m) assessing the skin and client response to determine suitable reactions and avoiding adverse reactions
 - n) adjusting variables as necessary, whilst monitoring skin and client response and discontinuing treatment where adverse reactions occur
 - o) checking the client's wellbeing and giving on-going reassurance where necessary
- p) ensuring position and posture whilst working minimises fatigue and risk of injury
 - q) checking light/laser variables throughout treatment and making any necessary adjustments
 - r) ensuring the treatment is carried out within a commercially acceptable time
 - s) concluding treatment by returning light/laser system back into stand by/safe mode
 - t) disposing of sharps and waste to meet legal and organisational requirements.

5. Provide aftercare and post treatment advice to clients by:

- a) removing gel from treatment area as necessary
- b) ensuring the treated area is cooled and soothed using suitable cooling methods
- c) taking post treatment photographs according to organisational requirements
- d) ensuring aftercare advice and recommendations are accurate, constructive and based upon up-to-date knowledge of the treatment and products available
- e) ensuring client and equipment records are accurate, legible and complete
- f) ensuring the light/laser controlled area is left in a clean, safe and tidy condition
- g) giving the client accurate information on possible visual skin changes and recovery process and duration
- h) giving the client accurate information on complementary services and homecare products.

RANGE

1. Equipment includes:

- a) laser systems, eg, copper bromide, dye laser
- b) broadband spectrum systems, eg, intense pulse light.

2. Specifications and variables are:

- a) wavelength(s)
- b) energy
- c) power
- d) fluence
- e) pulse duration/width
- f) pulse delay
- g) pulse repetition frequency (PRF)
- h) spot size
- i) cooling devices
- j) hand pieces/beam delivery systems/scanners
- k) electrical requirements
- l) environmental requirements.

3. Light/laser controlled areas have:

- a) minimum reflective surfaces
- b) enclosed area
- c) suitable entry and exit points
- d) adequate fire precautions and suitable services, eg, provision for hand sanitisation.

4. Legal and safety requirements include:

- a) lighting
- b) ventilation
- c) waste management, eg, sharps
- d) room size and layout.

5. Systems are:

- a) engineering controls, eg, key switches, foot pedals, interlocks etc.
- b) administrative controls, eg, local rules, training, signage, issue of keys etc.
- c) personal protective equipment (PPE), eg, gloves, masks, eye wear.

6. Clients are:

- a) male
- b) female.

7. Assessment techniques are:

- a) questioning
- b) observing
- c) touching.

8. Treatment aims include:

- a) reduction of fine lines
- b) evening out of pigmentation, colour tone and texture
- c) reduction of superficial Telangiectasia, Spider Naevi and Campbell DeMorgan spots (blood spots)
- d) improving the appearance of photo aged skin
- e) improving the appearance of Rosacea
- f) stimulating the production of collagen.

9. Skin classifications include:

- a) Fitzpatrick or ethnic skin classification systems
- b) Skin condition, eg, healthy/normal, combination, dry, oily.

10. Consultation records (including treatment plan and record cards) cover:

- a) informed consent form, eg, previous light/laser treatment history, medical history, emotional and physical condition, etc
- b) treatment record
- c) photographic evidence, eg, pre and post treatment.

11. Environmental conditions are:

- a) lighting
- b) heating
- c) ventilation
- d) general comfort.

12. Resources are:

- a) tools and equipment
- b) products and consumables
- c) time
- d) people/staffing.

13. Areas to be treated are:

- a) face
- b) neck
- c) chest
- d) hands
- e) other body areas that include suitable lesions for treatment.

14. Treatment protocols must cover:

- a) technique
- b) pre and post treatment
- c) recognition of treatment-related problems
- d) procedure if anything goes wrong during and after the treatment
- e) permitted variation on machine variables
- f) procedure in the event of equipment failure.

15. Reactions include:

- a) client reaction
- b) erythema
- c) oedema
- d) pigmentation changes
- e) crusting.

16. Cooling methods are:

- a) cooling gel
- b) water soaked gauze
- c) cold air
- d) ice packs
- e) laser/light cooling heads.

17. Aftercare advice includes:

- a) avoidance of sunlight, sunbeds and fake tanning products, touching the treated area, exposure to heat treatments, wearing of restrictive clothing, perfumed and chemical based products
- b) use of aftercare products including high factor sun creams, hydrating treatments and creams
- c) recovery time and subsequent treatments.

KNOWLEDGE AND UNDERSTANDING

To perform this unit successfully, you will need to know and understand:

Organisational and legal requirements

1. your responsibilities under current relevant health and safety legislation, standards and guidance, eg, the Care Standards Act, the Health & Safety at Work Act (and any other relevant legislation)
2. the importance of the guidance and detail listed in the MDA document (Guidance in the safe use of lasers or medical and dental practice) and subsequent amendments, eg, signage, training requirements
3. the importance and reasons for sanitising your hands and wearing personal protective equipment (PPE)
4. why it is important to maintain standards of hygiene and the principles for avoiding cross-infection
5. the importance of correct client positioning to minimise potential discomfort and injury to yourself
6. the importance of avoiding work-related injury, eg, repetitive strain injury (RSI), back injury, contact with chemicals
7. the importance and reasons for keeping records of treatments and equipment use
8. the importance of the correct storage of client records in relation to the Data Protection Act
9. the importance of producing high quality photographic evidence (before and after treatment) in line with organisational practices and emerging industry trends
10. how to minimise and dispose of waste and clinical waste (ie, items contaminated with body fluids) from treatments
11. why it is important to complete services in the given time
12. principles of quality assurance
13. the light/laser controlled area practices and policies
14. the importance and reasons for adhering to organisational and treatment protocols for treatment procedure, clinic management, client consultation, record keeping, waste management, light/laser safety, aftercare procedures, etc.

Client consultation

15. how to use effective communication and consultation techniques
16. the contra-indications that may affect treatment, including; sun-tanned skin, pregnancy, some herbal remedies, active herpes simplex, active impetigo, active eczema, active acne, photo-sensitive medication, keloid scars, tattoos in the treatment area, psoriasis in the treatment area, certain circulatory conditions, inappropriate hair type and colour
17. the conditions that may require medical approval for treatment (eg. moles and pigmented lesions, insulin controlled diabetes, epilepsy, haemophilia)
18. the importance of, and reasons for, not naming specific contra-indications when referring clients to a general practitioner
19. why it is important to maintain client's modesty and privacy
20. the importance of understanding the factors that make certain clients less suitable for light/laser treatment
21. the importance of considering the client's physical and emotional conditions, previous treatment, sun exposure, reaction and medical history
22. the importance of identifying the client's skin classification using the Fitzpatrick and ethnic colour scales to predict how a client may react to light
23. the importance of and gaining informed consent
24. the importance of using test patches and how to carry them out to determine client suitability for treatment
25. how to recognise an adverse reaction following a test patch/treatment, ie, skin greying or whitening, excess erythema, blistering, pigmentary changes, excessive discomfort
26. the knowledge of treatments that could be given in conjunction with/after light/laser treatment
27. the importance of recognising presenting conditions that will restrict treatment, ie, deep wrinkles, vascular malformation such as port wine stains, excessively dry or dehydrated skin.

Preparation for treatment

28. how to prepare consultation records covering:
 - a) informed consent form (ie, previous light/laser treatment history, medical history, emotional and physical condition, sun-tanning history, skin classification, pigmentation, client signature, practitioner's signature, client expectations)
 - b) treatment record (ie, area treated, practitioner's name, treatment method, time and duration, equipment settings, treatment outcome)
29. how to prepare yourself for carrying out the treatment
30. how to prepare the client for the treatment
31. how to position clients for treatments
32. the necessary conditions for a light/laser controlled area
33. how to produce and the significance of, photographic images pre and post treatment.

Anatomy and physiology

34. the structure and function of the skin (ie, epidermis, dermis and its appendages and subcutaneous layer)
35. how to identify common skin lesions and disorders, (ie, eczema, acne, psoriasis)
36. how to identify common vascular lesions and disorders, (ie, Telangiectasia, Spider Naevi, Campbell DeMorgan spots, port wine stains, Haemangiomas, Cherry angiomas)
37. how to identify common pigmented lesions and disorders, (ie, pigmented naevi, café au lait macules, lentigines)
38. the ageing process of skin, including the effects of UV light (ie, tanning)
39. the principles of the circulatory and lymphatic system
40. previous treatments and skin care methods and their effects on skin condition.

Treatment specific knowledge

41. the principles of light energy and how it interacts with skin and hair
42. differing types of light/laser equipment and their recommended use and application, including equipment not appropriate for photo rejuvenation, eg, CO₂, Er:YAG
43. why it is important to understand the variables and terminology of light/lasers in relation to photo rejuvenation treatment practice
44. the causes and hazards of accidental exposure to light/laser light
45. features and properties of light and light/laser beams
46. basic light/laser operation, eg, types of active media, production of laser beams
47. light-tissue interaction including effects of light/laser light on the eye and skin

48. the importance of questioning/assessing the client to gain information on their skin healing ability and rate
49. the knowledge of post treatment effects and the importance of clients avoiding sun exposure, heat treatments and vigorous physical activity
50. the importance of advising clients on effective skin care management following treatment including soothing and hydrating products
51. the importance of advising clients of the likely recovery time including the pigmentary and other visible changes following treatment .

Equipment and materials

52. how to prepare and use the equipment and materials for the treatment
53. methods of sanitising equipment
54. how to maintain equipment and materials in a clean and hygienic condition
55. procedural and associated hazards relating to light/laser use
56. the principles of MPE (Maximum Permissible Exposure) and the selection of protective eye wear
57. the use and application of gels for photo-rejuvenation with particular reference to type and thickness.

The Hairdressing And Beauty Industry Authority would like to thank the following companies for their support in the production of this booklet.

Aculight UK Limited

5th Floor, Merit House, The Hyde, Colindale, London, NW9 5AB

Telephone: 0870 902 1615

Fax: 020 8732 7482

Email: info@aculight.co.uk

Website: www.aculight.co.uk

Energis International Limited

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Fax: 01792 762099

Email: sales@energisint.com

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Fax: 01477 536978

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HABIA, Fraser House, Nether Hall Road, Doncaster DN1 2PH

Tel> 01302 380013 **Fax**> 01302 380028

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CSIA, FREEPOST DC643,
Doncaster, South Yorkshire DN1 2BR





HABIA
Hairdressing And Beauty Industry Authority



HABIA, Fraser House, Nether Hall Road, Doncaster DN1 2PH
Tel> 01302 380013 **Fax**> 01302 380028
email> sales@habia.org.uk **website**> www.habia.org.uk

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