

ND-YAG LASER : TITAN 3 TATTOO REMOVAL CLINICAL PROTOCOL DR. PAUL MYERS

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**IMPORTANT NOTE ABOUT THE USE OF THIS MEDICAL PROTOCOL;
THE INFORMATION AND ADVICE IN THIS PROTOCOL SHOULD BE FOLLOWED BY THE
LASER PRACTITIONER . IN ACCORDANCE WITH THE SUPPLIED CLINICAL AND TECHNICAL
MANUALS, (WHICH THIS SUPPLEMENTS BUT DOES NOT REPLACE). IT SHOULD BE USED
ONLY BY OPERATORS WHO HAVE ATTENDED APPROPRIATE TRAINING COURSES.**

This protocol has been written specifically for the clinic stated in the accompanying certificate, in compliance with Standard P1.1 for prescribed technique and Prescribed technology in relation to Laser and IPL provision, as originally regulated by the Private and Voluntary Health Care (England) Regulations 2001, paragraph 42

INTRODUCTION ; USING THE ND:YAG LASER.

Certain Nd:Yag laser is suitable for the removal of tattoo pigment, the colour of pigment that can be removed depends on the specification of the individual laser. Nd:Yag lasers must be “Q-switched” for tattoo removal, and the colour of pigment that can be removed depends on the wavelength of energy provided. The 1064 Nd:Yag is suitable for blue or blue black tattoos. (Note If the equipment has a frequency doubled facility the laser can be used at 532 nm for the removal of red pigment).

This protocol gives general advice that applies to all treatments with your supplied laser equipment, but assumes that the clinical management of the patient is arranged according to the clinical manual and the equipment technical manual that you will have been provided with alongside this document.

The Nd:YAG laser should be used in accordance with the Health and Safety at work Act and this advice protocol should be read in conjunction with the attached technical literature. In particular laser goggles must be worn by personnel at all times during operation of the laser. The infra red light of wavelength 1064 nm is completely invisible and retinal damage may easily occur if appropriate protection is not used during use of the device. This is because the eye will transmit most of the laser radiation directly to the retina, if exposed. Maximum care should be taken at all times, and specifically any use of the laser pen is performed so that the laser beam is not at eye level. Setting the laser using the provided software is crucial to obtain safe and effective results. The following variables apply to laser use for the treatment of tattoo removal with the Nd:YAG laser.

Spot Size. This indicates the area of skin to which the laser light is being focussed, and is controlled by varying a spacer attachment; This is a mechanical device which enables the spot size to be altered by adjusting the distance between the laser light source and the skin surface which corresponds with the treated area to be exposed to laser light. Details of the spot sizes applicable to your Nd:Yag laser are defined in your Laser technical manual provided with the equipment.

Repetition rate This controls the delay between each pulse, and is expressed in Hz; this being a measure of the number of shots the laser fires per second.

Sometimes a lower repetition rate is more tolerable for the tattoo removal of patients with a low pain threshold.

The Fluence Setting This is a reflection of the power output of the device. This adjusted through the settings on the control panels, and the appropriate fluence should be chosen for the clinical situation, using the settings provided in the technical manual as a guide. This is the most important variable as this dictates the amount of energy that is being directed towards the vein being targeted. Too low a fluence will leave the target chromophore unaffected, and too high a fluence will cause unnecessary damage, including bruising and possible skin necrosis.. Efficacy will depend on a number of variables, including fluency settings, the experience of the laser operator, and the type, size, age and depth of the tattoo being treated.

THE TITAN 3 ULTRAPULSE LASER

This clinical protocol should be used strictly in accordance to the additional instruction manual and technical information provided with the Ultrapulse TITAN3 tattoo removing laser. This laser is an Nd-Yag laser with a wavelength dual wave 1064 and 532 nm , with an output up to 1700M, a pulse width of 3.5ns and a power rating of 500 W the pulse frequency is adjustable between 1-10 Hz.

PRE-TREATMENT ASSESSMENT

Before any test patch or treatment either can begin it is the responsibility of the therapist to ensure safe quality assured treatment and care can be delivered. This responsibility falls into three main areas.

(1) Health and Safety Considerations The therapist must ensure that the controlled area in which the treatment will take place is safe, that an established set of Local rules are drawn up by a recognised Laser Protection Advisor and that his will involve a short risk assessment of the area:

These include issues such as are the door locks working? Is there signage to warn all concerned that the equipment is in use, do not enter? Are there any dangers in the room e.g. trailing wires? Is the area clean and hygienic?

Test shots must be conducted to ensure your laser equipment is working efficiently. Should you be in any doubt do not use the equipment and contact laser equipment provider immediately as well as your LPA. Personal protective equipment must be

worn according to the Local rules described. All pre-treatment equipment and safety checks must be documented.

(2) The Laser Operator Only therapists who have undergone appropriate training in the use of the equipment, and can demonstrate by qualification or experience a “Core of Knowledge” and have their names and signature appear in the list for authorised users, will have access to use of the Laser equipment. Therapists must have read and agreed to abide by all Local Rules and S.O.P (Standard Operating Procedures), local policies and protocols. Therapists must ensure quality of treatment and care.

(3) The Client The client must receive sufficient information with regard to the treatment options, effects, side effects, benefits, limitations and possible cost of treatment.

Has the client been given to opportunity to ask further questions? ; Has the client given valid consent? Has the client been given safety instructions?

THE CONSULTATION

All patients must attend an initial consultation with a properly trained clinical operator. It is essential that the operator can give the client enough information so that their informed consent can be obtained. The clinician should:

1. Reassure the patient of the high level of care they will receive
2. Explain the treatment process to the patient
3. Assess the area to be treated
4. Ask the series of questions concerning their medical history which will show if they are suitable for laser treatment.
5. Explain the fact that laser treatment can feel uncomfortable, like a sharp pinprick, but that local cooling can help alleviate any discomfort if required.
6. Explain the fact that goggles must be worn by the patient and operator because intense white light can be harmful to the eyes
7. Fill in a Consultation Form with the patient
8. Determine the patient's skin type by using the Fitzpatrick Scale
9. Give the patient realistic expectations about the treatment. Explain that a number of treatments may be necessary to see optimum improvement

10. Talk to the patient about the possible side effects of laser treatment and answer any questions the patient may have
11. Tell the patient what is expected of them in terms of sun exposure on their treated area. They will be unable to expose that area to sunlight for a period of at least two weeks after the treatment, unless a high protection sun cream is used.
12. Provide estimates of the total cost of treatment and discuss methods of payment
13. Complete the necessary paperwork and ensure that the patient signs the consent form
14. Photograph the affected area for the patient's records
15. Book a 'test patch' session. In general, at a consultation or within a week of the consultation, a test patch must be taken to ensure that the patient has no adverse reaction to the treatment

DISORDERS SUITABLE FOR ND:YAG TREATMENT

Although there are a range of skin disorders that can be treated with Nd:Yag laser types; (for example removal of certain blemishes and thread veins, hair removal and for the removal of red coloured pigmented lesions such as port wine stains), in order to remove tattoo pigment a particular Nd:Yag laser is required that has been adjusted for tattoo removal purposes, **these will be the “Q-switched” type , for which this protocol specifically applies.**

The decision of whether a condition is suitable should usually be taken by a doctor who has had experience and training in laser treatments. When making the assessment of the patients for tattoo removal there should be awareness of other treatments that are available, including covering camouflage treatment, (rarely) surgical treatment, over tattooing, and of course conservative treatment. Some types of Nd:Yag lasers can be “frequency doubled” and these can be used for the red coloured tattoos. However the decision of the suitability of your particular laser to the specific tattoo should be made by someone who has had particular training and experience in diagnosing and assessing these conditions, in particular dealing with the issue of matching the laser type (i.e. wavelength) against tattoo pigment to be removed.

CONTRA-INDICATIONS TO LIGHT BASED THERAPIES

Perform a patch test on every client before treatment on the area to be treated and wait 24-48 hours to check for adverse reactions. -

ABSOLUTE CONTRAINDICATIONS;

These conditions must not be treated under any circumstances

General conditions; Pregnancy aged Under 18's

Skin conditions Moles / Vitiligo / Keloid Scarring / Tanned skin / Porphyria
Xeroderma

Medical Conditions Pacemaker / Kidney Disease / Heart Disease / Epilepsy /
Lupus Disease / HIV / AIDS / Diabetes / Past history of cancer / Haemophilia

Drugs Gold Injections / Anti Coagulants / Roaccutane

RELATIVE CONTRAINDICATIONS

Specific conditions to be aware of, and action guidelines

Photo Sensitive Medications	(see appendix for current list) Consult Doctor / patch test
Skin Type 4	Patch test wait 2 weeks
Semi Permanent Make Up &Tattoo's	Avoid the area
Inner ear canal	Avoid the area
Inner nose canal	Avoid the area
Skin disorders	Avoid the area seek clinical advice (infections, broken skin)
High or Low blood pressure	Can be treated/Consult doctor
Collagen, Restylane, Botox injections	Patch test, wait 8 weeks
Oral steroids	Patch test wait 24 hours/check with GP
Anti inflammatory	Stop using 7 days prior to treatment
Retin A	Stop using, wait 2 weeks and then patch test
Deep peel or laser resurfacing (doctors)	Wait 6 months before patch testing
Glycolic Peels . Doctors - 40%	Wait 4 weeks and then patch test
Glycolic Peels Salon	Wait 2 weeks and then patch test

EXPLANATORY NOTES & ADDITIONAL INFORMATION

Permanent make-up. Do not use the laser to treat over areas that have heavy or dark pigmentation as it may cause adverse skin reactions, and change the colour of the treated area; (this is not surprising as this is the purpose of using the laser on the tattoo pigment). Piercing body jewellery – wherever possible remove piercing or body jewellery. Do not fire a laser beam on to reflective jewellery.

Implants .It is generally accepted that implants, such as silicone implants. heart pacemakers, 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.

Dermatological conditions A number of conditions may be contra-indicated, even if the conditions are being treated: such as active eczema, psoriasis or acne. In general 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.

Epilepsy .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 . 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 . 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.

Pregnancy. 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 .Do not treat suntanned skin as the increased level of melanin in the skin can cause unpredictable results including long term pigmentation changes.

Artificial tans; clients with tans should not be treated until the product has completely faded from the skin.

Drugs or medications that cause photo-sensitisation

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. 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 anti-bacterials and antibiotics, antifungals, non steroidal anti-inflammatories, cardiovascular drugs, diuretics and drugs containing retinoids. A current list of photo-sensitising drugs is shown in the Appendix.

Skin pigmentary conditions .Clients with a history of melasma or vitiligo should not be treated. Skin containing moles or pigmented naevi should be avoided or covered during treatment.

Keloid scars .Clients with a history of keloid scarring are more at risk from disfiguring scars in the event of a treatment producing skin damage.

Assorted medical problems Coronary conditions and raised blood pressure: 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. Patients with a history of deep vein thrombosis, connective tissue disorders or hyper-coagulability conditions should not be treated.

Allergies . Always check with your client as to whether they suffer from allergic reactions to the products or materials you may use, e.g., latex or rubber based gloves, creams and gels.

For any clinical advice please contact

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As directed by your support registration pack.

GUIDE TO ND:YAG LASER TREATMENT TECHNIQUE FOR TATTOO REMOVAL

This information should be read in conjunction with the accompanying clinical guidance manual and manufacturer's technical manual.

After explaining to the patient the treatment procedure and covering the issues described elsewhere in this document, such as consent and pre and post treatment care, pre-treatment photographs should be taken and the consent form completed and signed, and the following procedure followed:

1. A patch test was taken on a small area of the tattoo using the lowest fluence settings suggested by the laser documentation. The patient should be recalled 3-4 weeks later to assess results of test patch. As long as this gives a satisfactory response without side effects the treatment proper should be undertaken as follows;
2. The appropriate spot guide size was chosen and insert into the hand piece, this being dependant on the standardised settings provided in the laser manufacturer's documentation.
3. Both the operator and patient should be provided with the correct eye protection, the doors should be closed and all warning signs switched on from inside the laser room.
4. The laser started using the key and ready button, the correct spot size for the hand piece being used should be chosen from either the software displayed on the VDU, or the manufacturer's documentation.
5. The correct pulse, repetition rate and fluence levels should be entered into the laser control panel, again being guided by the standardised levels provided.
6. Where available for a frequency doubled machine the correct wavelength for the pigmented area being treated should be programmed in. This is determined by pigment colour to be treated, (1064 nm or 532 nm)
7. Operate the laser (e.g. by depressing the foot peddle of the machine, or press the firing button where applicable. Fire at the chosen rate ; such as 1 or 5 shots per second, choose the repetition rate according to the manufacturer's manual and be guided by patient comfort.
8. A very small patch of the tattoo should be treated and then left for 2-3 minutes to check the skin reaction. Blanching or whitening of the skin but no punctuate bleeding or bruising is the usual desired effect to observe, and might take several minutes to show through. This procedure should be followed every time the fluence is altered.

9. The entire tattoo should then be treated with minimal overlap of the treatment area. The skin reaction should be observed carefully throughout the treatment and the patient asked to provide feedback regularly.
10. Following the completion of the treatment the machine should be switched to 'standby'.
11. On finishing the treatment any spacer attachment should be wiped with an alcohol swab.
12. On completion of the treatment either Aloe Vera gel should be applied or where necessary the tattoo was dressed with a sterile, non-stick dressing.

[Selection of Treatment Parameters](#)

The treatment parameters of the laser equipment used are chosen on the basis of fairly strictly defined default values set by the operator, relating to the chosen target chromophore, and the number of treatments already given. The laser manufacturer will provide a table that suggests the fluence level and spot size for a given treatment, (dependant on which treatment number is being considered.) Once the spot size and fluence level is so chosen, the other variables of repetition rate and the total number of shots required can be determined by the operator at the time of the treatment. The repetition rate is dependant on the coverage of the tattoo, whereas in general the repetition rate of 5 Hz to 10 Hz was usually the most appropriate, although in other cases patients with low pain thresholds may find a lower repetition rate and a slower treatment process more acceptable.

[Clinical End Points](#)

The clinical end points of laser tattoo removal are usually consider either objective; such as the expected colour changes within the tattoo (lightening of the pigmented area), associated with minor soft tissue swelling and also an erythema of the surrounding skin or subjective; relating to the discomfort experienced by the patient. The immediate markedly whitening or greying of the tattoo, usually changes back to a darker coloration more characteristic of the pre-treatment state will frequently be observed.

LASER THERAPY AFTERCARE

Aloe vera moisturiser or after sun cream should be applied to the treated area to help protect the skin following treatment. Patients should use highest factor sunscreen and protect the treated area from exposure to sunlight for one month following treatment. Tanning after treatment sessions may enhance melanin regeneration, which may result in hyper pigmentation. If the treated area blisters following treatment, the blistered area should be left alone to heal naturally. If the blisters burst then a dry dressing may be applied. Patients should be warned to avoid scratching or picking scabs or blisters as this could result in scarring. If any unusual skin reaction is observed the patient should contact the clinic so that a consultation with one of our medical team can be arranged. The following notes are important, and relate to the aftercare of treatment with lasers.

Before treatment

- Avoid exposure to sunlight and sun-beds for at least 2 weeks.
- Do not apply any self-tanning products for 1 week prior to treatment.

48 Hours After Treatment

- Avoid restrictive clothing or excessive friction of the area.
- Avoid applying Perfume, Body lotions, After Shave, Make-up, or deodorant.
- Avoid excessive exercise or hot baths, that may cause heat to build up in the area.
- Avoid heat treatments such as saunas and steam rooms as well as Jacuzzis.
- Avoid going swimming as chemicals in the water may cause a skin reaction.
- Do not lie in the sun or use sun-beds as this activates the Melanin in the skin and can lead to pigmentation marks.

If the area treated feels tender or warm: Apply cold compresses of cotton wool soaked in cold water, or a pack of peas from the freezer wrapped in a clean cloth. Do not apply ice directly onto the skin as this can cause a burn.

- Do not apply any creams/lotions to the area other than that recommended by your Therapist. Aloe Vera cooled in the fridge is very good.
- Clients should notify the Clinic of any change in medical conditions, medication or Pregnancy.

Adverse reactions are unusual events, but it is important that the operator of the laser equipment is aware of treatment related problems. A description of these you may see are as follows:

- Excess erythema; usually becoming more pronounced as time goes on (rather than dissipating) and deepening in colour.
- Inflamed erythema; usually in the same shape and size as the pulse, dark red/ purple in colour.
- Scabbing
- Localised burn / Blistering;
- Hyper pigmentation
- Hypo Pigmentation

If you see any of the above reactions, stop the treatment immediately and apply covered cold packs to the area until the reaction dissipates. Do not proceed with any further treatment on that day. Review the client at weekly intervals until the adverse reaction has resolved. All adverse reactions must be documented and reported to the relevant persons (LPA / LPS) and used as learning experiences in order to formulate best practice. The above after effects usually occur if the client has a contra indication to the treatment, (especially with regard to UV exposure, or self tanning) , when no cooling has been applied, if there have been errors in the choice of fluence settings, or unusually when the reaction is due to faulty equipment.

Pigmentation When the skin is exposed to the sun the melanocytes are activated, i.e. they get ready to protect the skin from burning by producing melanin. You do not necessarily have to be in the sun long enough to produce a tan, approximately 20 minutes is long enough. If a client has had recent sun exposure when they come in for treatment the melanin will absorb all the light produced by the laser system and there will be changes in the skin as a protection mechanism; this is Hyper-pigmentation. The melanin in the skin absorbs light, and this darkening is a protection mechanism against burning. Darker skin types, with more Melanin, absorb light more easily, and get a smooth tan. White skin types (especially red haired people) do not have as much melanin protection, and burn easily.

Hyper-pigmentation (increased pigmentation) Is mostly transient in nature and is a result of activation in melanocytes – which produce as much melanin as possible resulting in dark patches. Pigmentation usually occurs due to sun exposure but can be caused through the client being on certain photosensitising treatments, if the energy setting for treatment is too high for the skin type, overlapping of pulses or if products are left on the skin or applied after treatment contrary to advice. Note that peri-vascular bruising is relatively common following Nd:YAG vascular treatments, and the bruising may result in haemosiderin deposits, which look like brownish hyper-

pigmented areas. The haemosiderin generally fades over the following months, but can be very long lasting.

Hypo-pigmentation (loss of pigment) is more likely to be permanent, than hyper-pigmentation. The melanocytes initially produce as much melanin as possible and are then also destroyed, leaving white patches. These clients have to be advised to adopt special precautions when exposing the skin to sunlight.

In the case where either hyper or hypo-pigmentation has occurred, the client needs to be aware that the skin will recover in its own time and must be left to heal. This process cannot be speeded up. Hypo pigmentation which is rarely transient and more likely to be permanent. Picking or interference of the area may result in a permanent scar.

Burns management. It is very unlikely that a skin burn will occur as a result of laser treatment that has been administered according to the clinical protocol and the technical guide, that this protocol supplements. However, occasionally, this might occur, particularly if a client has not provided an accurate assessment of previous sun exposure. If you are at all concerned that the effects of a treatment may have caused a burn, advise the client to seek medical attention immediately. Although rare, it is possible to cause a burn to the skin with a laser. It is important that you can recognise the symptoms of burnt skin and know what to action to take. Obvious signs that a burn has occurred include: the presence of blisters or raised skin (this may arise immediately but can also occur up to a period of 24 hours); a greyish discolouration of the skin; extreme discomfort; severe erythema or any mark / reddening of the skin that occurs at the treatment site. If the burn is deep, pressing down on the skin will not result in the blanching effect seen in normal skin. Burns such as these will require urgent medical attention.

As Soon as a Burn has Occurred

- **Stop the burning process** (stop using the laser.)
- **Cool the burn.** Hold the burned area under cool running water for 20 minutes (ideal temperature is 15 deg. C.). If this is impractical, immerse the burn in cold water or cool it with cold compresses or covered ice packs changed frequently. **Do not use ice or iced water.** Putting ice directly on a burn can cause frostbite, further damaging your skin.
- **Take an over-the-counter pain reliever** if required. These include aspirin, ibuprofen, or paracetamol.

Short Term Recommendations

- It is not necessary (or recommended) to use antiseptic creams or lotions.
- If the area has small, intact blisters, no dressing is required and exposure to the air is recommended. Do not break small blisters. Fluid-filled blisters are sterile and protect against infection. If large blisters form, seek medical attention.
- If the burnt area is open and moist looking, or if blisters have burst, cover the area in a paraffin gauze dressing such as Jelonet. Dry gauze dressings used with a layer of Vaseline may be substituted if paraffin gauze is not available. Change the dressings every 2-3 days.
- Elevation of the burnt area will help to reduce swelling.
- Do not pick blisters or scabs as this will drastically increase the risk of scarring.

Long Term Recommendations

- Massage moisturiser into the skin twice daily until the area has completely healed.
- Newly healed skin can be more sensitive to the sun and may be prone to pigment changes on sun exposure. For this reason, use high factor sun cream or avoid sun exposure on burns that are less than a year old.
- Deeper burns may result in the formation of a scar. If there is evidence of a raised or lumpy scar forming, consult a doctor immediately.

Minor burns usually heal in about 1 to 2 weeks without further treatment. Scarring is uncommon in superficial burns but pigment changes in the skin may occur. These changes may be permanent but will often resolve within 12 months. Watch for signs of infection such as increased pain, redness, fever, swelling or oozing. Infection will cause poor healing and further damage. If infection develops, get medical help immediately.

PROCEDURE IN THE EVENT OF EQUIPMENT FAILURE

In the event of a machine failure; turn off the machine and remove the plug from the mains supply. Carefully document the treatment session, and follow the instructions in the manufacturer's manual, supplied. Call the laser equipment provider using the telephone number supplied in the manual, and notify the LPS. Do not use the equipment again until it has been checked by an appropriate engineer.

PERMITTED VARIATION ON MACHINE VARIABLES

Each Nd:Yag machine will have its own default settings which will be chosen automatically based on the variables such as skin type and skin problem to be treated. These should always be used initially as explained earlier in this protocol, (see treatment technique section), and particularly when being used to patch test in a patient who has little previous experience with laser therapy..

However when an experienced operator is treating a patient with the Nd:Yag and they are proceeding with an existing course, then depending on the response to treatment and the development of observable endpoints, then it is permitted to increase the fluence levels beyond the initial ones that the equipment suggests. This should be done carefully in accordance with the training received, and the advice in the technical literature accompanying this protocol. In any cases of doubt always start with a low fluence, or the equipment fluence default, whichever is the lower.

APPENDIX 1 – DRUGS ASSOCIATED WITH PHOTOSENSITIVITY

CHECK LASERSUPPORT FOR THE LATEST UPDATED LIST !

The commonest drugs to cause photosensitivity are Amiodarone, Phenothiazines (e.g. chlorpromazine), Sulphonylureas (e.g. chlorpropamide), Sulphonamides, tetracyclines, Nalidixic acid, Psoralens (used therapeutically). The list is in alphabetical order, and contains the names of branded drugs and generic drugs. This is not a fully comprehensive list. All medicines must be checked through the doctor or a pharmacist. Treatment must not take place until you are satisfied there is no risk of photosensitivity. In addition to these prescribed medicines many products, which can be bought over the counter for example cold and flu remedies can cause the skin to be photosensitive. It is essential that all clients must be advised to declare all medications. If in doubt do not treat contact the client's GP seek or advice from your LPA . Many herbal and homeopathic preparations can have photosensitive reactions where such preparations are taken, for example; St Johns Wort – extremely photosensitive- takes 3 months to be out of system. Advice must be sought from the homeopath or herbalist.

Acezide	Meloxicam
Aciclovir	Metenix
Aldactide 50	Metolazone
Amiloride ,	Mobic
Amiodarone	Moduret 25
Lansoprazole	Moduretic
Aprinox	Monotrim
Azithromycin	Motrin
Bendroflumethiazide ,	Nalidixic acid
Centyl K	Navidrex
Chlortalidone	Navispare
Co-amilozide ,	Nayanar
Co-flumactone ,	Negram
Cordarone X	Neo-Naclex (& -K)
Co-triamterzide ,	Norfloxacin
Cyclopenthiiazide	Oxicam.
Demeclocycline	Propionic acid.
Diclofenac	Prozac
Doxycycline	Roaccutane
Dyazide	Spirocholactone
Fenbufen	Supralip
Fenofibrate	Tambocor
Flecainide acetate	Tetracycline.
Fluoxetine	Thioridazine
Gemfibrozil	Triamterene
Griseofulvin	Trimethoprim
Grisovin	Utinor
Heliclear	Vibramycin-D
Helimet	Voltarol Emulgel
Hydrochlorothiazide	Voltarol Gel Patch
Hydroflumethiazide ,	Zithromax
Hygroton	Zoton Fastab
Ibuprofen	Zovirax
Kalspare	
Lansoprazole	
Lederfen	
Ledermycin	
Lopid	
Melleril	

FITZPATRICK SKIN TYPING

Skin type is determined genetically and is one of the many aspects of your overall appearance, which also includes colour of eyes, hair etc. The way your skin reacts to sun exposure is another important factor in correctly assessing your skin type. Recent tanning (sun bathing, artificial tanning or tanning creams) has a major impact on the evaluation of your skin colour and it is vital that this is discussed with the therapist before testing the skin.

Fitzpatrick Skin Types

1. Always burn, never tans
2. Always burn, tans with difficulty
3. Sometimes burn, tans average
4. Rarely burns, tans with ease
5. Moderately pigmented, always tans
6. Deeply pigmented, never burns

In practice this corresponds to the following Fitzpatrick Skin Types:

1. Very pale skin, redheads – blonde, blue eyes
2. Caucasian – white skin, green eyes
3. Mediterranean, Hispanic, Italian, Greek etc. – Olive skin, brown eyes
4. Pale Asian
5. Dark Asian
6. Black skins

Note: you can also tell to a lesser extent an indication of the skin type from eye colour.

When using the Enhanced equipment ask the client to complete the skin type questionnaire to help determine the patient's skin type, so the correct parameters can be entered, corresponding to the appropriate settings as given in the technical guide.