



User's Manual

Aesthetic ProTools Tri-Pulse Q switched laser



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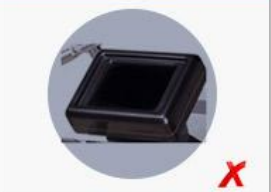
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Accessory List

Check the completeness and correctness of accessories after you open the package. If any damages may occurred, please do not hesitate to contact us.

Comparison			
			
7 articular optimal-arm	Safety Goggles	Foot Switch	Screen
			

Copyright Declaration

The manual is for Q-Switched Tri-Pulse nd:Yag laser manufactured by our company. Our products have been continuously improved and updated, and we reserve the right to make changes to the specifications without notice.

Before installation, please read this manual. Operate in accordance with the specification strictly. We are not responsible for the direct, indirect, intentional, unintentional damage and risk due to improper installation, use and maintenance.

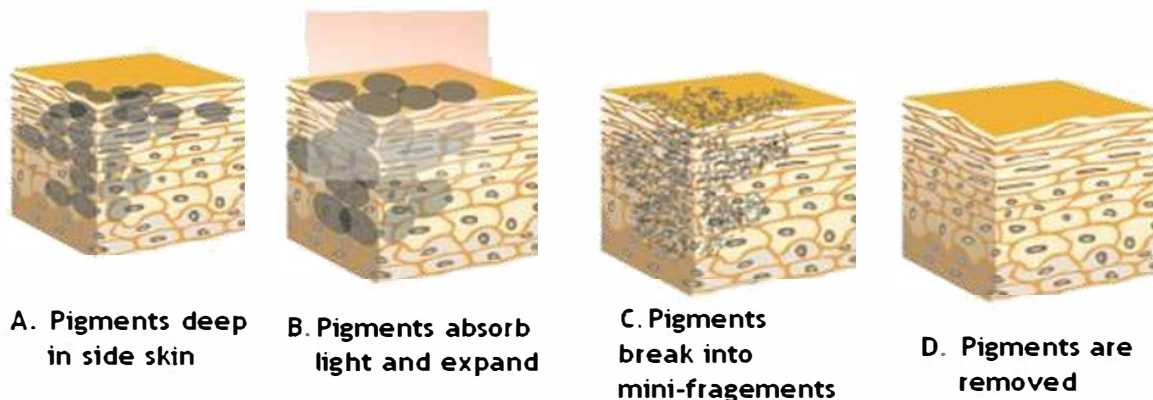
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Attention: Please keep this manual for future reference!

Part I Treating Theory, Applications and Contradictions

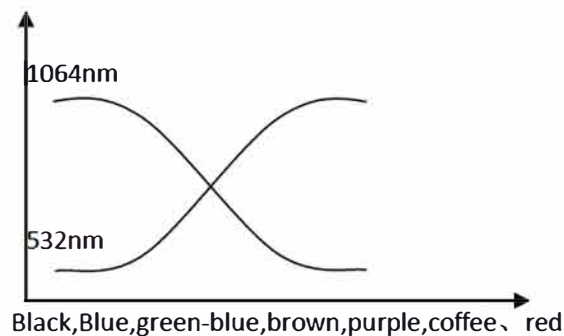
1.1 Treating Theory

The Q-Switched Tri-Pulse nd:Yag Laser radiates light of specific wavelength(1064&532nm) in high pulse energy, and in three ultra-shot nanosecond pulse durations the light penetrates the tissue and is absorbed by the pigments and result in an instantaneous reaction. The pigment particles are shattered into fragments, parts of them will be extruded out of the skin and the other parts will be split into tiny particles that can be engulfed by phagocytes and then eliminated by lymphatic system. See picture 2-1 shows:



- ◆ 1064nm: Remove Blue,Black,Green-blue color;
- ◆ 532nm: Remove Red Color;
- ◆ Two works together: Remove Coffee ,Brown Colors

Absorption Picture:



1.2 Applications

1. Tattoos Removal (Black, Red, brown Blue ,tec.)
2. Pigments Removal (Sunspot, Ota's nevus , Ito's Nevus, Mongolian Spot, Age spot ,CALMS ,Nevus ,Zygomatics etc).

1.3 Contradictions.

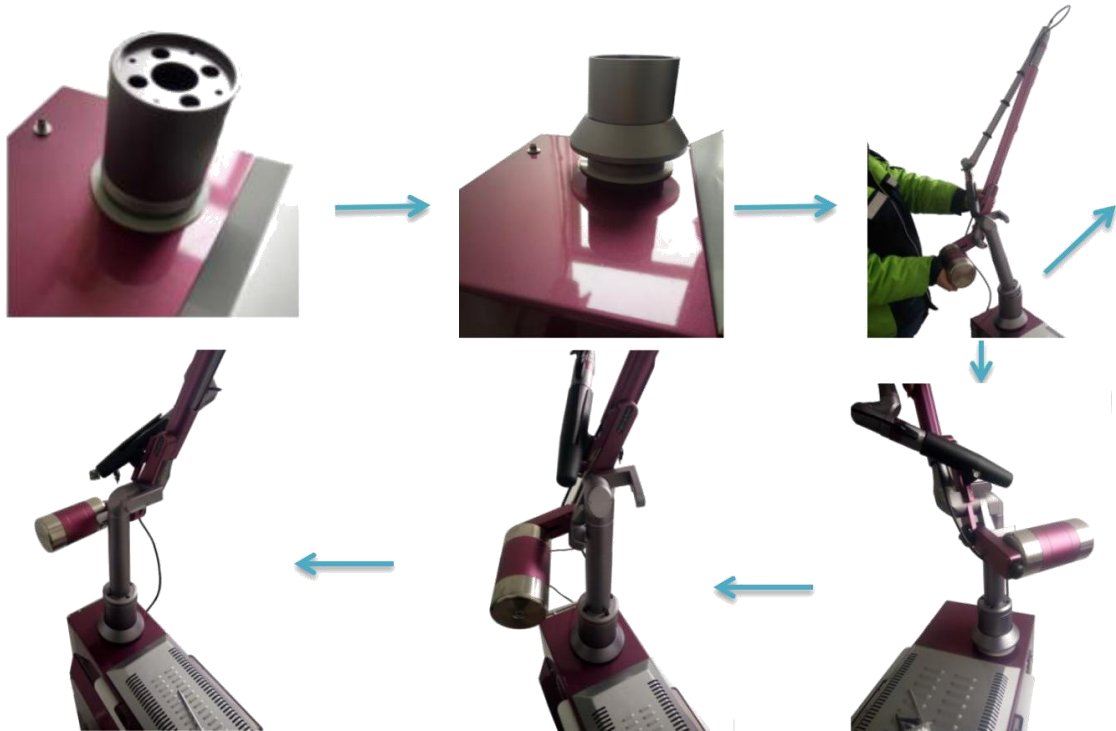
- ◆ People with cardiac pacemakers or internal defibrillators.
- ◆ People get treatments with functional cosmetics in the past month.
- ◆ People with severe diabetes, hypertension, heart disease, epilepsy patients.

- ◆ Vascular surgery conducted on treatment area within the past two months.
- ◆ Treatment area with skin damage, active herpes or malignant lesions , Scars.
- ◆ Pregnant women.

PartII Installation and attention

2.1Installation

2.1.1 Installation of Articulated Arm



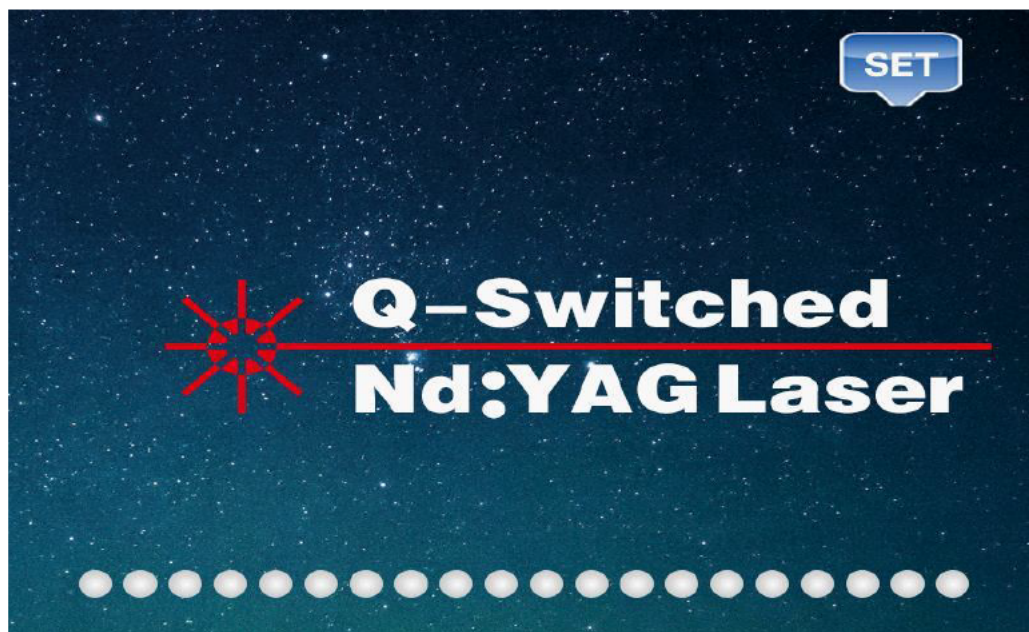
Note: When installing the arm, please steady the arm and tighten the screws

2.1.2 Installation of the Power cord.

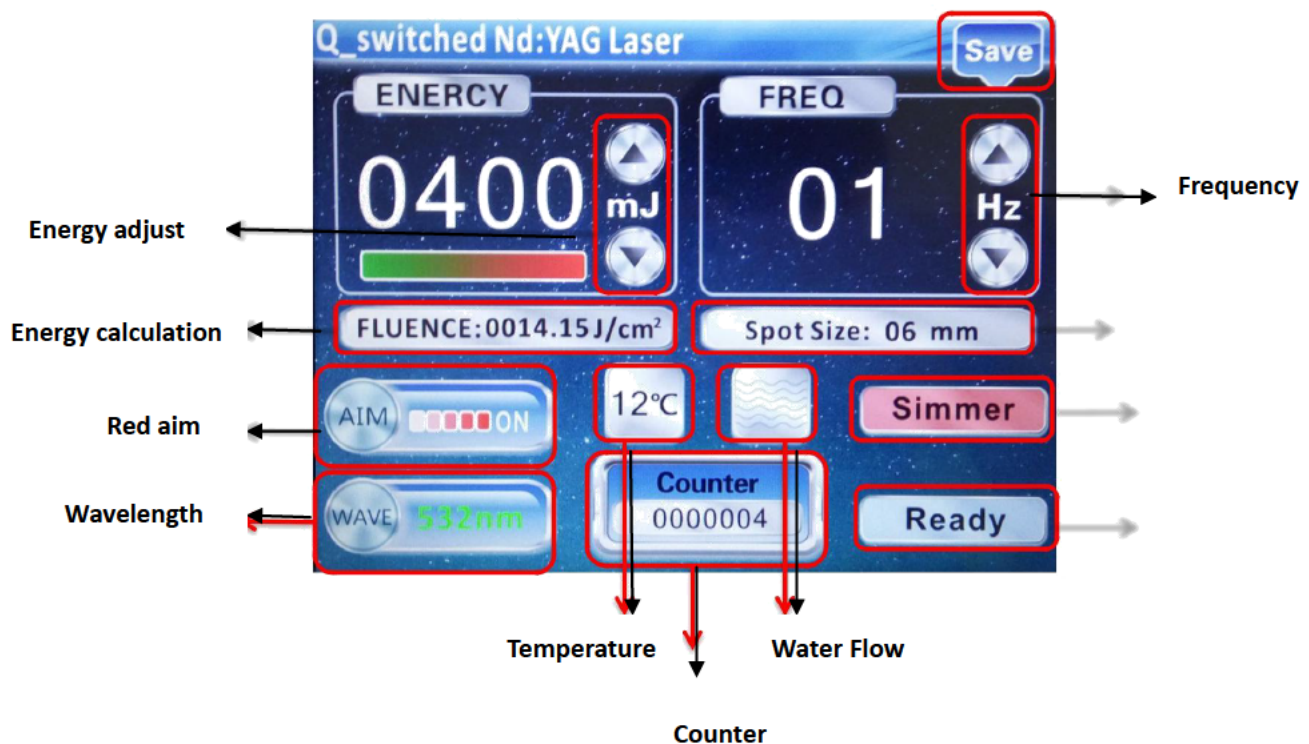
First to be sure the blue button as below is at on position, and the emergency button is at lifted position, otherwise switch them to on position. Plug the power supply lead to power socket and use the key to switch on the machine.



2.1.3 Introduction of Interface



Main Interface



Operation interface

2.1.4 Cooling system

1.Remove the back panel screws



2. Unscrew the water tank, top off the water and recap it, add more water after 5 minutes of operating.



2.2.Precautions

1.Instruments should be kept in at room temperature 5 °C -35 °C , relative humidity ≤ 85%, clean, low indoor dust the strong magnetic field without interference, good air quality (non-corrosive particles, conductive dust, etc.)

2.Please select the laser location in a well-ventilated place, the Tri-Pulse cannot be placed on the heat radiator, or near the heat source, such as ventilation pipes, or direct sunlight, strong magnetic field interference, or mechanical vibrations. To ensure the safety of the ventilation vent keep a distance of $\geq 30\text{cm}$

3. Please check the specifications and requirements of the electrical load according to published technical parameters.
4. Tri-pulse is a precision device, it is a fragile laser device, install and place the equipment to prevent impact from falling objects.
5. Use the correct electrical power source type. Tri-Pulse uses 110VAC 3 prong plugs. Do not modify the equipment plug.
6. Scientific or purified water can only be used for cooling. Change the water completely once a summer. Verify the water volume every 60 days.

* Change cooling water for the first time after 60 days. Verify the water volume in the canister every 60 days. Change the water every summer.

PartIII、 Operation Guidance and Precautions.

consultation → observation → build up the treatment record → select the wavelength → cleaning → starting the machine → wear protecting goggle and eye-patches → adjust the parameters → do output testing

Consultation

Have a complete communication with the client, ask about his/her skin problem and condition, his/her endurance to pain, establish a reasonable expectation from the treatment. Make sure the client's health and skin Fitzpatrick is appropriate to be treated.

Observation

According to the customer's skin condition, quality and health, offer the client a set of custom treatment adjustments.

Build up the treatment record

After the consultation, record the medical history details of the client and make sure all items are completed and confirmed by client's signature. Take a post treatment documentation photo and keep it in the client's file. Use this image to compare the treatment effects and make the followup treatment adjustments.

Select the Wavelength

Select the right wavelength when treating pigments or tattoos. If you are performing a Skin Rejuvenation, Use 1064nm wavelength and change to a fraxel head for skin rejuvenation.

Skin Preparation

Do a deep cleaning using gentle cleansing lotion. We suggest using our Hydroxybrader water & Oxygen jet machines.

Starting the machine

First choose the wavelength you want, then pulse duration and last, you can choose the power level.

Wear Protective goggles

The Laser Technician and the client must wear protective goggles

Testing

Starts from Low energy to do the treatment for 3-5 shots, and see how the area responds to laser energy. If energy is too low, adjust the parameter according to the pigments reaction on lasers until you find the best energy for the client.

3.2 During Operation

3.2.1 Clean the treatment area before treatment. Use IMAJ skin cleanser and water.

Please make sure the treated area is dry when you do the treatment, or the energy would be lost and will be higher, and there will be a negative effect on the skin.

3.2.2 Q-switched YAG Laser has two wavelengths: 1064nm, 532nm. 532nm could be seen as green. It will affect operators' eyes, so Laser Technicians must wear a protected glass with an appropriate wavelength.

3.2.3 When doing treatment, make sure the treating tip is held 90° (vertical) to the treated area.

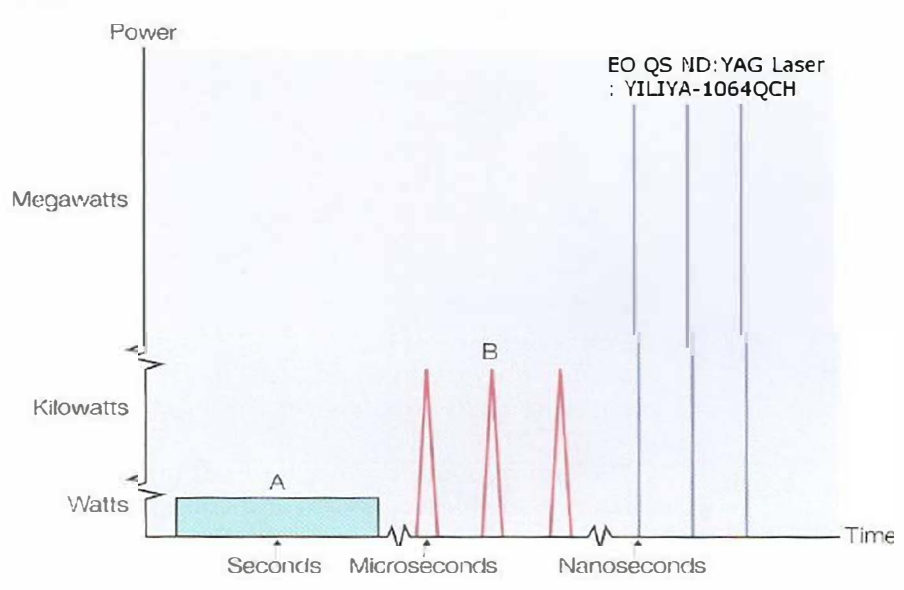
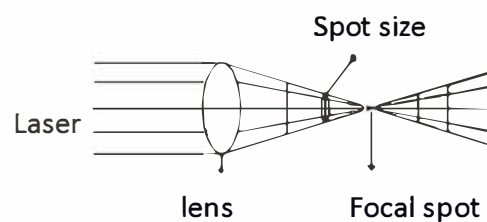
3.2.4 Operator should make sure to avoid treating the normal skin.

Make sure the Spot is unique and overlaps 1/3, as the picture shows below. If the treated area has no obvious blood oozing or swelling, repeat the treatment is allowed.



3.2.5 At the same wavelength, the higher the power density is, the better the treating result! At the same energy, the shorter the time (pulse width) is, the better the result is and with reduced pain! So when treating on dermal pigments, it is better to choose higher energy density.;

Energy density=	Energy
	Spot Area



3.2.6 In case of the same wavelength and Energy density, the larger the spot area is, the deeper the penetration is, so when you treat dermal pigments, it's better to choose spot area larger than 2mm. Only junctional nevus and hypertrophic scars require spot area less than 2mm.

3.2.7 When pigments appear to lighten, it means the energy density you choose is enough.

3.2.8 ★ **Reminder:** Laser is harmful to eyes. When doing treatment. Both operator and clients need to wear protective goggles and glasses before treatment. And it is forbidden to look directly into the laser output. When remove eyeliner, operator must be professional and careful in treatment. improper protection of the eyes could lead to uncomfortable feeling or eye injury.

3.2.9 Do not use reflective materials in the treatment room. Reflected laser light can cause injury.

3.2.10 The laser is only allowed to point onto the treated area, do not point the laser to any other places, and it is required to post a laser warning sign at the entrance of treating room. Forbid anyone to come in and out during the treatment.

3.3 After Operation

3.3.1 Make full record on the treatment parameters, client's reaction during and after treatment.

3.3.2 Press Ready, return to standby status, turn off electricity, clean treatment tips.

3.3.3 Remind the patient of required care of the treated area, and make an appointment for next treatment and remember to call-back the client to follow up.

3.4 Postoperative Care

3.4.1 Avoid direct sunshine and wear SPF sun-protection.

3.4.2 Don't touch the treated area including not to wash it within 2 days;

3.4.3 During the healing process, do not scratch the wound, let any scab fall down by itself.

3.4.4 Don't drink or smoke, avoid stimulating foods such as sour or spicy..etc.;

3.4.5 Don't treat the wound if it feels uncomfortable, it's better to consult the doctor/ Laser Technician immediately.

Remarks: Laser Technicians should manage the Tri-Pulse's operation easily and safely. There are no unusual side effects. Treatment can cause hyper-pigmentation or scars. Blistering may occur.

3.5 Operation Cautions

3.5.1 Make sure the room temperature and room environment are comfortable.;

3.5.2 Make sure coolant tank is full of water. Insure all accessories are connected to the correct sockets.

3.5.3 Make sure no inflammable or explosive material are inside treatment room.

3.5.4 Make sure there's no reflective material inside treatment room and clients should take off any metal materials such as watch, bracelet, necklace etc.

3.5.5 Make sure the treatment area is dry and do not to use alcohol to clean the treatment area.

3.5.6 Make sure Overflow hole is with CPC when machine runs on, or machine could not run normally.

3.5.7 We suggest exchange complete cooling system water every 2 months. Cycle the coolant for 2 minutes each week, then turn off. Repeat this cycling at least twice each time to make sure water flows easily.

3.6 Adverse Reaction

3.6.1 After treating. The wound could have some small bumps on the surface, these bumps usually disappear within 1-2hours.

3.6.2 Any Erythema could turn lighter in color then disappear several days later depending on client's individual health.

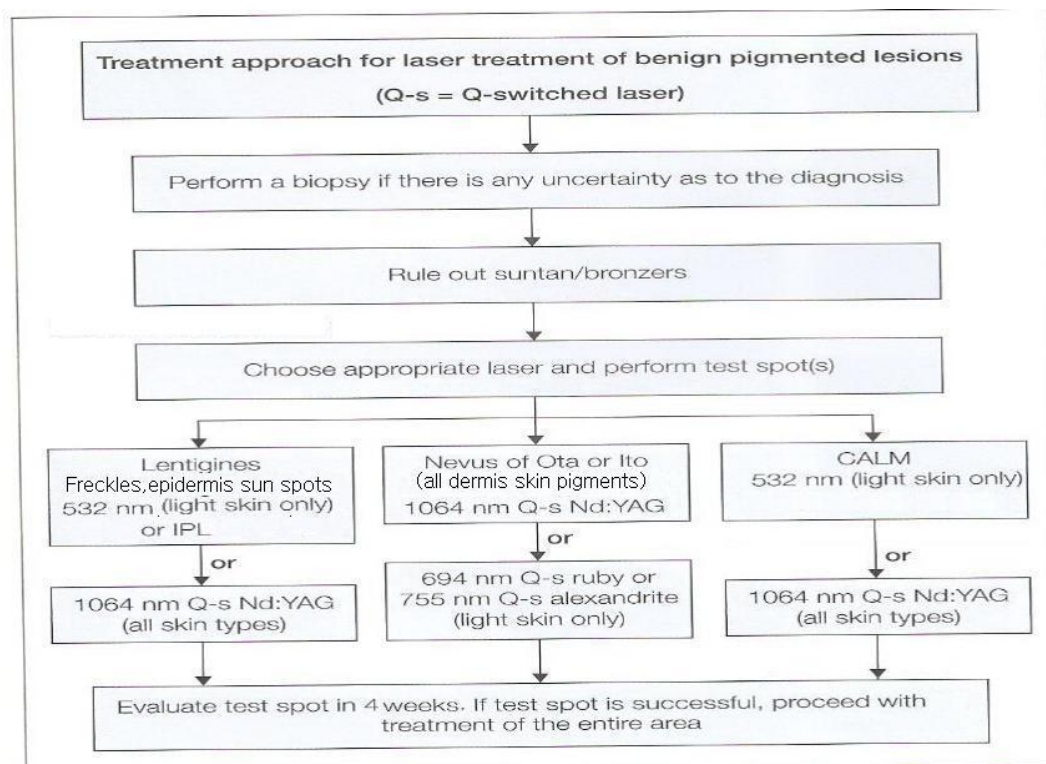
3.6.3 Any Depigmentation is expected to reduce as time goes on. Usually 2-3 months.

3.6.4 Hyperpigmentation reaction is related to the client's Fitzpatrick scale classification. It seldom occurs. If it does, normally it could disappear after 2-3 months, but also may need some medical intervention for quicker recovery.

3.6.5 Scars are rare, we do not suggest treating those with cicatricial pemphigoid diathesis. Improper care could keloid or hypertrophic cause scars.

PartIV、 Some Typical Pigments Solving and Treating Process

Guidance



4.1 Treatments on Cloasma and Hyper-pigmentation

4.2 Treatments on Zygomatices

4.3 Treatments on Nevus of Ota/Ita.

4.4 Treatments on CALMS

4.1 Treatments on Cloasma(melesma) and Hyper-pigmentation



4.1.1 Cloasma and Hyper-pigmentation are the most difficult skin problems in world clinical market. Especially cloasma, the pathology is complicated, it is important to analyze the causation and then offer a treatment, it is better to combine with treatment with lifestyle modification. (sunshine, food, rest, mood, pressure are all very important.)

4.1.2 Choose wavelength : 1064nm, spot size: 5-7mm, Frequency: 5-10Hz. Power density from: 300mj, stop treatment when the treated area turns light red. Pigments may be seen scattering at this point.

4.1.3 Do not choose high energy, make sure there's no blood oozing, nor pigments or skin blanching. This could lead to serious pigmentation issues:

4.1.4 Put some anti-inflammatory cream on the treated area, apply until it is fully absorbed by the skin.

4.1.5 Wear SPF 30 sun-protection. Put anti-inflammatory cream every night. The client may need to take some anti-inflammatory medicine each night. A Moisture mask may be useful.

4.2 Treatment on Zygomaticeles.



4.2.1 Histopathology of zygomaticeles:

Melanocytes that have not migrated completely from the neural crest to the epidermis stay in the dermis during the embryonic stage causing darker color.

Zygomatices present as macules with symmetrical distribution of the zygomatic areas with black-to-gray, black-to-brown, gray-to-brown pigmentation.

4.2.2 Choose Wavelength :[1064nm](#), spot size:[4mm](#), Frequency: [5-10Hz](#) . Energy start from:[260mj](#).

pigments would fracture during the treatment, stop treating if blood oozes slightly, pigments may be seen scattering than before.

4.2.3 Do not use high energy, as it could cause blood loss, and cause adverse pigmentation changes.

4.2.4 Put some gel(light ENHANCER) onto the treated area to make sure the treated area moist.

Make sure to care the treated area and avoid crusts. Light scabbing is normal phenomenon.

4.2.5 Wear SPF sun-protection daily. When any scab drops off, use some antibiotic ointment

4.2.6 Pigments would decrease after 2 weeks; If pigments turn to darker after 2-4weeks.

4.3 Treatment on Nevus of Ota/Ita



4.3.1 Histopathology of nevus of Ota/Ita:

Nevus of Ota is caused by an abnormally increased dermal melanocyte which contains a large number of melanin.

4.3.2 First quick scanning: Choose wavelength [1064nm](#) ,spot size : [5-6mm](#),Frequency: [6-10Hz](#) . Energy starts from: [400mj](#), re-scanning: wavelength [1064nm](#) ,spot size : [3mm](#),Frequency: [5-10Hz](#) . Energy: [250mj](#), pigments could fracture during the treatment. Stop treating if the treated area oozes blood.

4.3.3 Those nevus requires high energy. If energy too low, it will not fracture the pigments effectively, and you should not see blood ooze from the skin. That result would negatively affect achieving a good treatment result.

4.3.4 Put a gel(skin lightening enhancer) on the treated area to make sure the treated area stays moist. Make sure to moisturize the treated area to avoid crusts (eschar). Light scabbing is a normal phenomenon and not a concern.

4.3.5 Wear SPF 30 sun-protection daily. When any scabbing or eschar drops off, use some repairing essence such as a moisturizer or anti-inflammatory cream.

4.3.6 Pigmentation should decrease after 4 weeks or so, treatment intervals :60-90days. Expect 6-8 sessions.

4.4 Treatments on CALMS.



Before

After

4.4.1 Histopathology:

The total amount of melanin in the epidermis increases causing additional color and the amount of melanocyte increases.

4.4.2 Choose the wavelength according to client's skin type. Skin type II—III: choose 532nm, spot size: 3mm, skin type III choose :1064nm; Frequency 3-10 . Energy starts from : 200mj, Stop treating when treated area turn to light red. Pigments could be seen scattering than before.

4.4.3 Do not use high energy, that could cause blood oozing more quickly, and also cause pigmentation changes.

4.4.4 Put some gel(skin lightening ENHANCER) onto the treated area to make sure the treated area moist.

Make sure to care the treated area and avoid crusts (eschar). Light scabbing is normal phenomenon.;

4.4.5 Wear SPF 30 sun-protection daily. When any scabbing or eschar drops off, use some repairing essence such as a moisturizer or anti-inflammatory creme.

4.4.6 Pigments should decrease after 4-6 weeks. Treatment interval: 45-60days. Expect 6-8 sessions.

Tattoo Removal:

