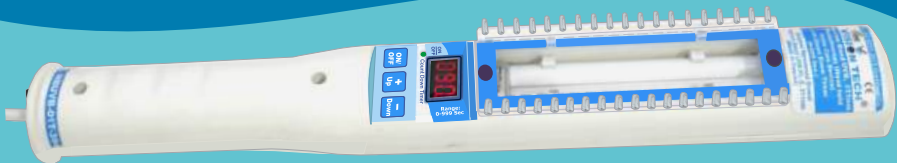


**Hand Book & Instruction Manual of Narrow Band UVB  
 Phototherapy Device, 311nm, with Timer (0-999Sec) with  
 Magnetic Interchangeable Aperture Plates  
 for Targeted / Spot Therapy  
 (Hand Held Home Care Device, Model: NBUVB-01T)**

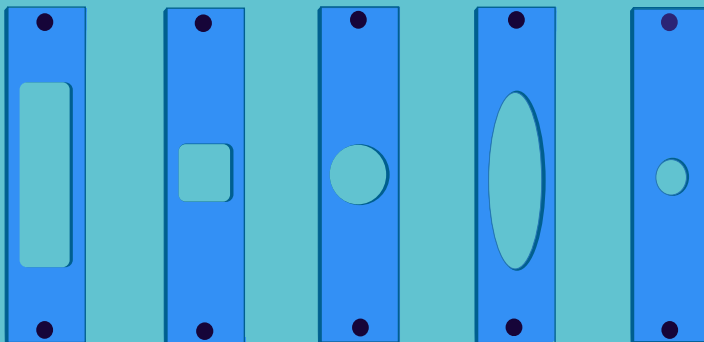
**Device Includes:**

- original Philips NBUVB,311nm Lamp/CE Certified/5-star rated (Made in Poland)
- In-Built Automatic Cut Off Count Down Count Timer (0-999 Sec)
- Magnetic comb attachment
- Interchangeable Magnetic Aperture Plates for targeted spot therapy

**A Unique & Innovative Smart Device Helps To Treat Vitiligo/Leucoderma/Safed Daag/ White patches/Fulveri, Psoriasis, Eczema, Atopic dermatitis, Mycosis fungoides, Pruritus, Photodermatoses, Hyperbilirubin and many skin related ailments and complications.**



**Interchangeable Aperture Plates for Radiation Control  
 (For Various sizes of skin patches)**

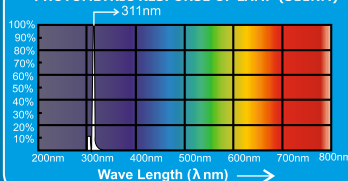


**VITILIGO**

**BEFORE AFTER**

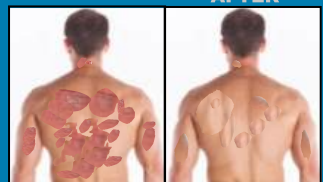


**PHOTOMETRIC RESPONSE OF LAMP (311NM)**



**PSORIASIS**

**BEFORE AFTER**





**Vision Tech Electronics** was established during the year 2000 in Ahmedabad (Gujarat, India), and attained Trade Mark (Under Trade Registry, Class:9, 10 & 11, Govt of India) entitled: **VISION TECH®**

We have wide experience in manufacturing , more than 20 years in highly specialized Lighting and UV related applications and apparatus. We are very delighted to present Handheld Narrow Band UVB, 311nm Phototherapy device with inbuilt Auto cut off Count Down Timer along with magnetic aperture plates to get desired compatible various radiation patterns for various sizes of skin patches and also separate magnetic comb attachment has been provided for patches on scalp or on sensitive skin. We are using original Philips NBUVB , 311nm , CE Certified Lamp, 5-star rated (Made in Poland). NBUVB device has already helped thousands of patients across the world in treatment of Vitiligo / Leucoderma / Safed daag / White patches / Fulveri, Psoriasis, Eczema, Atopic Dermatitis, Mycosis Fungoides, Pruritus, Photodermatoses, Hyperbilirubin and skin related ailments and complications.

Although designed for consumer at-home therapy, also is used by many professional Dermatologists, Clinics and Hospitals.

The precise and unique spectral energy distribution with an emission peak at 311nm, almost nullifies the potential side effects like redness and itching. Also, a shorter period of exposure time is needed.

#### **How to use the device:**

- Treatment can be carried out alternate day for each area of skin to be treated and in dark room for effective radiation exposure.
- While using the device, simply place it against the affected area (Even you may touch the device). Positive results have been seen in as little as 15 days. however results do vary between individuals and severity of condition. We recommend to consult your Dermatologist for full treatment before use of the device

Our scientific geometrical physical design allows to get 2.5 times more radiation rate as compare to other conventional Phototherapy devices. In our Phototherapy device, mirolite curvature and cavity ensures that Narrowband UVB, 311nm can be safely focused and effectively over the skin to be treated without any deviation.

#### **Automatic cut off Count Down Timer:**

In-built timer (0-999Sec /16.65Min.) has been provided with device, which is user friendly and easy to operate

#### **Aperture Plates:**

These have been provided in various sizes to create various radiation patterns, compatible to various patch sizes of the skin.

### Magnetic Comb:

We should attach comb part only when radiation exposure is meant for the patches on scalp or sensitive area of skin, otherwise comb part should be avoided. Direct usage of the device (without comb) reduces exposure time and gives the fastest results

**Note:** In the case of Photosensitive skin, this is highly recommended to attach comb part while doing Phototherapy session.

### Rare Earth Magnets (Neodymium):

Attachment mechanism between device & Aperture plate + Comb is accomplished by rare earth magnets (Neodymium) which facilitate easy coupling of aperture plates or comb part with the surface of main body of NBUVB device. This magnetic mechanism keeps the stable coupling & keeps away mechanical wear & tear.

These above described features allow the NBUVB Phototherapy sessions in disciplined manner and that systematic exposure helps in fast and targeted recovery from the skin ailments with out any significant side effects and this controlled mechanism avoids unnecessary skin tanning.

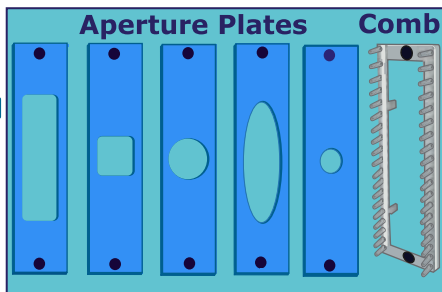
### Control Gears:

Control gear of Device ensures very long life span of the Lamp with minimal depreciation of exposed energy and has been tested most stringently to run the Lamp very safely. Hence our careful design of NBUVB Phototherapy device helps to give very fast results.

## PRODUCT FEATURES

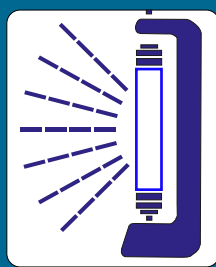
### Aesthetic / General Features:

- ➔ Device Body: high quality medical grade virgin ABS material
- ➔ Body colour: Coral White
- ➔ Aperture plates: made of Acrylic (front: Blue, Rear: Mirolite)
- ➔ Comb: made of poly carbonate
- ➔ Rugged & elegant packaging, helps device to keep safe & intact
- ➔ Dimensions (LxBxH): 450mmx60mmx48mm, Weight:450gm



### Optical Parameters:

- ➔ Uses original Philips NB-UVB, 311nm CE Certified, 5-Star rated Lamp (Made in Poland)
- ➔ High quality curved mirolite surface beneath the lamp focuses the UV light energy at optimal level
- ➔ Treatment area: 5 cm x 15 cm (2" x 6")
- ➔ Green indicator signifies healthy lamp
- ➔ Blinking Red indicator along with buzzer signifies unhealthy lamp.



### Electrical Parameter:

- ➔ Premium quality of industrial Electronic Ballast has been used, which ensures enhanced life span of lamp
- ➔ Mains Supply Voltage: 230Vac
- ➔ Length of 3-pin mains cord: 7ft
- ➔ SPD>6KV, PF>0.90, RFI/EMI Suppression
- ➔ ON/OFF Rocker switch is provided
- ➔ Lamp:PL-S, 9W, Voltage:60V, Current:0.170A, Wavelength:311nm
- ➔ Cape Base: 2-pin, G23, Colour designation: NBUVB

### How to set desired Time & how to use NBUVB Phototherapy Device:

- ➔ Plug in three pin mains cord into three pin socket and then switch on the mains switch
- ➔ Switch on Rocker switch, provided in the device







### Automatic cut off count down Timer (Range: 0-999 Sec):

- ➔ In Timer section, ensure to keep phototherapy device in “OFF” condition by pressing “ON/OFF” Key pad.
- ➔ Desired time can be set by pressing + (up count) or - (down count)
- ➔ After setting the desired time (i.e:90 Seconds), press the “ON/OFF” key pad. In this case Lamp will glow, that is indicated by green Led and count down of the Time will be started, as soon as Time reaches to “0”, automatically Lamp will be “OFF”
- \* Note: Time setting is not required every time, as last set time remains saved, as Timer design is Micro controller based, hence having memory feature
- ➔ Simply keep device against affected area of skin to be treated
- ➔ For targeted treatment of the various sizes of skin, attach the relevant Aperture plate on the device surface.
- ➔ Attach Comb, when radiation exposure is meant for the patches over scalp or area of treatment has sensitive skin.
- ➔ Carry out the therapy session on alternate day
- ➔ Wear the goggle to avoid direct exposure of NBUVB radiation to the eyes if not intended for treatment
- ➔ Close the eyes firmly, if intended area of treatment is exterior of eye lids or nearby area
- ➔ Carry out the therapy session in the dark room
- \*FOR Proper and effective treatment, refer the hand book thoroughly



## GENERAL PROTOCOLS FOR TREATMENT OF VITILIGO/PSORIASIS & OTHER SIMILAR CONDITIONS WHILE USING NBUVB DEVICE:

### 1. DOSE PROTOCOLS WITH RESPECT TO VARIOUS SKIN TYPE FOR THE TREATMENT OF VITILIGO:

	SKIN TYPE	Initial dose of NBUVB (Seconds)	Incremental Dose of NBUVB after each session (Seconds)	Max. dose of NBUVB allowed (Seconds)
	TYPE-1 VERY FAIR / PALE	30-Sec	<b>10-Sec</b> (30 + 40 + 50 + 60 + 70 + 80 + 90 + 100 + 120 + .....up to Erythema)	400-Sec
	TYPE-2 FAIR	30-Sec	<b>10-Sec</b> (30 + 40 + 50 + 60 + 70 + 80 + 90 + 100 + 120 + .....up to Erythema)	400-Sec
	TYPE-3 LIGHT BROWN / OLIVE	40-Sec	<b>15-Sec</b> (40 + 55 + 70 + 85 + 100 + 115 + .....up to Erythema)	500-Sec
	TYPE-4 OLIVE TO BROWN	50-Sec	<b>20-Sec</b> (50 + 70 + 90 + 110 + 130 + 150 + .....up to Erythema)	600-Sec
	TYPE-5 DARK BROWN	60-Sec	<b>30-Sec</b> (60 + 90 + 120 + 150 + 180 + 210 + .....up to Erythema)	800-Sec
	TYPE-6 DEEP PIGMENTED DARK BROWN	80-Sec	<b>40-Sec</b> (80 + 120 + 160 + 200 + 240 + 280 + .....up to Erythema)	900-Sec

- \* Above treatment protocols are applicable to NBUVB device without attaching Comb
- \* Comb should be attached in case of patches on scalp or in case of sensitive skin area / sensitive skin type / Eye lids & nearby Eye area
- \* Dose at which Light pink skin colour is perceived, is known as **Erythema**. This erythemic condition defines the compatible dose for patient and that fixed compatible dose must be continued.

## 2. FREQUENCY OF NB-UVB PHOTOTHERAPY USAGE:

Three times per week or alternate day

## 3. IF SUBSEQUENT DOSES ARE MISSED:

MISSED DURATION	CHANGES MADE IN PHOTOTHERAPY TIME
4 - 7 Days	Keep dose same
1 - 2 Weeks	Restart at last exposed dose - 25%
2 - 3 Weeks	Restart at last exposed dose - 50%
More Than 3 Weeks	Restart again right from scratch

## 4. ADAPTATION INCREMENTAL OF DOSE:

After prolonged compatible dose, due to adaptation principle, erythemic condition may be disappeared. In that case, again we should increase the compatible dose by 20%, until new erythemic condition is achieved.

## 5. PROBABLE COURSE OF NARROW BAND UVB:

- ➔ 18-36 session needed prior to assess treatment response
- ➔  $\geq$  48 sessions needed before before discontinuing phototherapy due to lack of response
- ➔  $\geq$  72 sessions needed before before stopping phototherapy especially in slow responders

## 6. DOSE ADJUSTMENT AFTER REPLACEMENT OF NEW LAMP:

Reduce dose by 20% and again verify the perceptible erythemic condition

## 7. COMPLETE EVALUATION OF THE TREATMENT:

Ideally 3 months can be considered for complete evaluation of the treatment along with your skin consultant

## 8. POST NB-UVB EXPOSURE:

Avoid additional sun exposure, or it is recommended to apply broad Band spectrum sun screen regardless of skin type , minimum skin protection factor of (SPF)  $\geq$  30

## 9. RECOMMENDED EMOLIENT/TOPICAL OILS BEFORE NB-UVB SESSION IN PSORIATIC SKIN:

In Psoriasis , certain emollients may improve the effectiveness of NB-UVB by reducing scaling and improving uniform light transmission, such as elbows and knees, eventually enhances the efficacy of treatment and accelerate the clearance of Psoriasis. We can use either of the following options.

**Note:** Thick oily or greasy layered emollients, can reduce UV penetration

For Psoriatic Skin:

**Mineral oil:**

This is a hydrocarbon compound also known as paraffin, white mineral oil & Nujol

**Baby oil:** Glycerin, Olive oil, Vaseline oil, Olec acid 5% are also highly recommended. This is one of the mineral oil, only difference is fragrance is added.

➔ Glycerine-based moisturizer, Urea 5-10% Cream, Cetomacrogol Cream, Olec acid 5% are highly recommended.

\* **Note:** Coconut oil, sun flower oil are not recommended

**10. SPECIAL SITES PRECAUTION DURING NBUVB SESSION:**

**During Face exposure:**

Cover the face during phototherapy, if not involved for treatment

**Male Genitalia:**

Use shields or cover the same by any means if not involved for treatment

**Female Areola:**

Use sun screen, shields or cover the same by any means

**11. POST THERAPY SKIN CARE:**

- ➔ Don't take immediate bath after NBUVB therapy
- ➔ Bath with mild soap/baby soap or cleanser
- ➔ Shorten shower times
- ➔ Limit to one shower per day
- ➔ Use warm (not hot) water only
- ➔ Moisturize skin twice daily (not immediately before NBUVB Phototherapy, may reduce efficacy)
- ➔ Best time to moisturize skin is after bathing

**12. POST MAINTENANCE OF TREATMENT REGIM:**

After recovery, it is not advisable to abandon therapy on of sudden, rather should be minimize the days slowly.

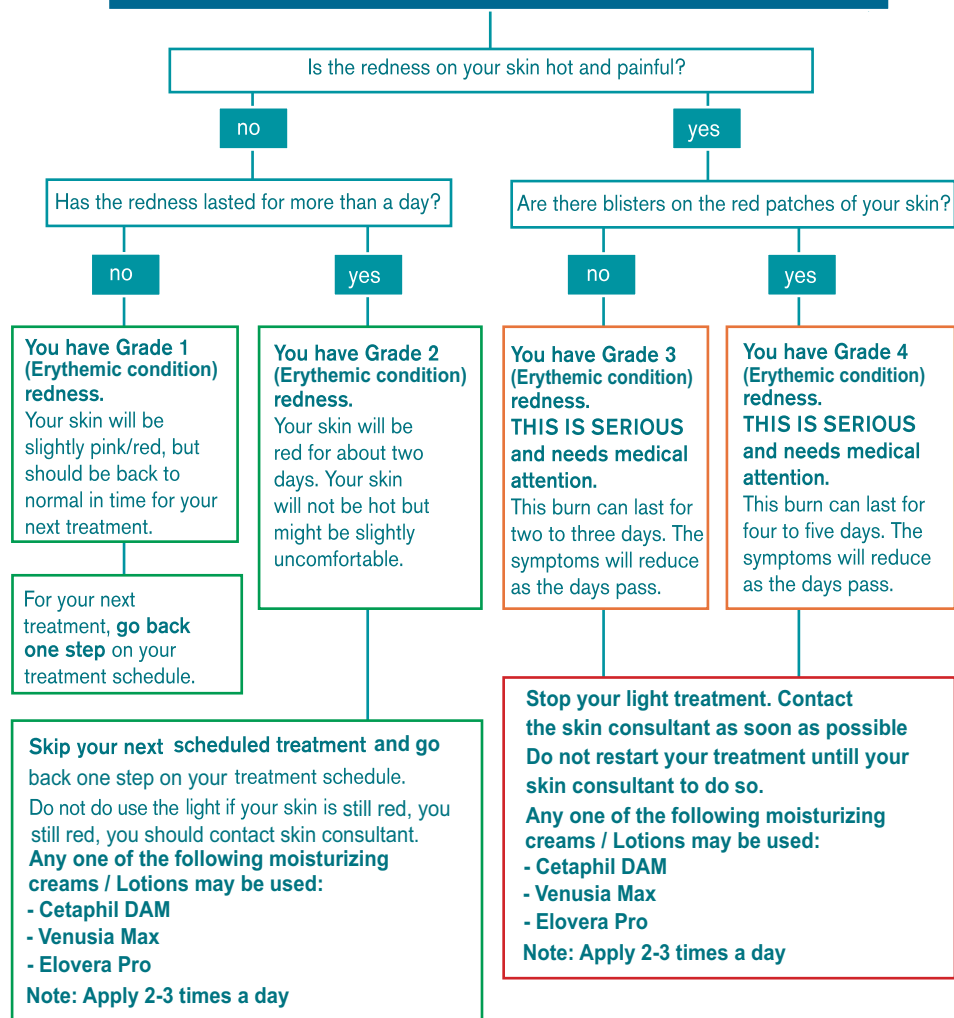
- ➔ Dose, twice a week for initial 4-weeks
- ➔ Dose a week for next 4-weeks

that means total number of doses will be 12 , for post maintenance of treatment regim.

### 13. WHAT SHOULD I DO, IF MY SKIN BECOMES RED ?

Some reddening of the skin after photo therapy is normal. It will take between four to 24 hours after your photo therapy session for the skin to become red. However, if the skin looks very red, or is painful then you need to change your treatment schedule a little.

If your skin is red after your last light therapy session, apply moisturiser to your skin and use this diagram to decide what to do next.

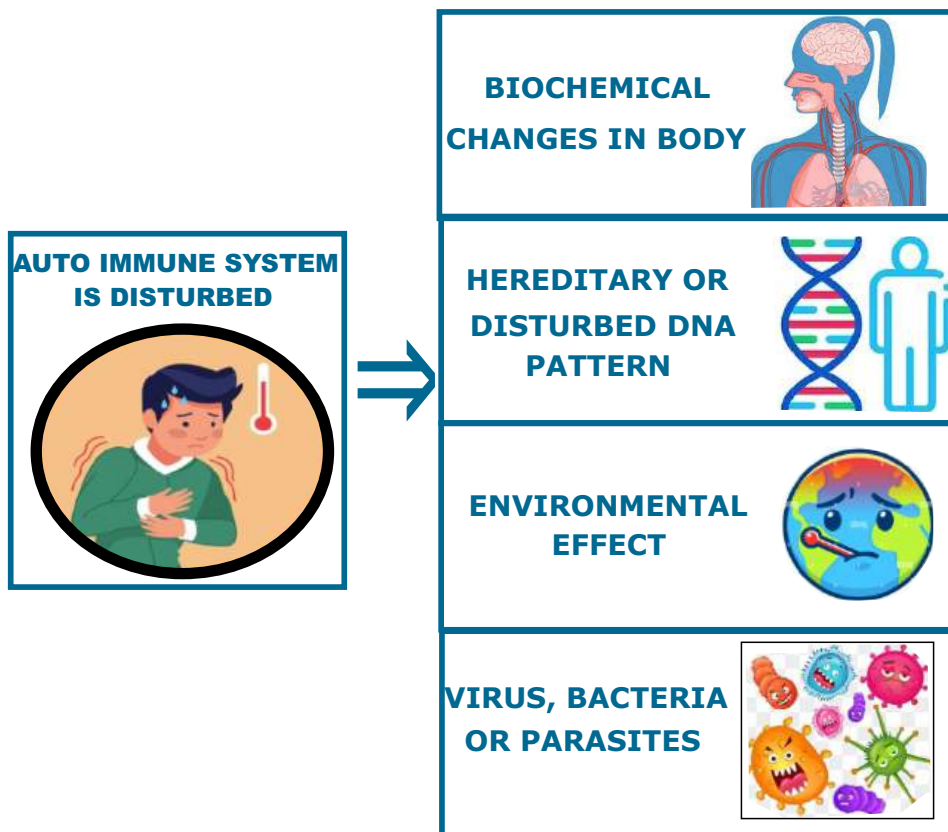


## 14. COMBINATION THERAPY:

### IMMUNOMODULATORS ( IMMUNE SYSTEM SUPPRESSOR) + NBUVB THERAPY:

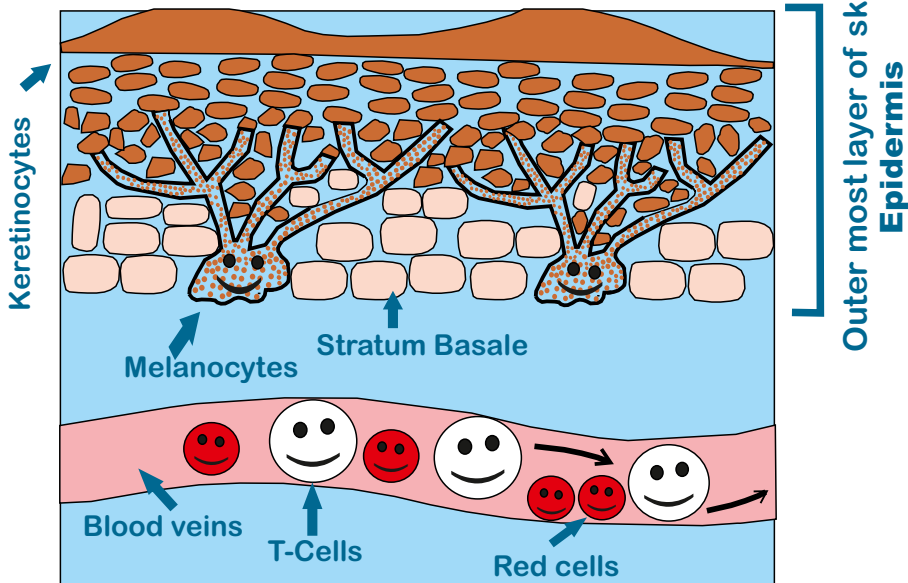
This is practically proven that in combination therapy, excellent results have been achieved in treatment of Vitiligo and Psoriasis. For better understanding, we need to know probable causes of Vitiligo and Psoriasis ailments. We will not go into anatomical detailed explanation rather go through simplified explanation and could be given as follow:

#### HOW VITILIGO IS TRIGGER:



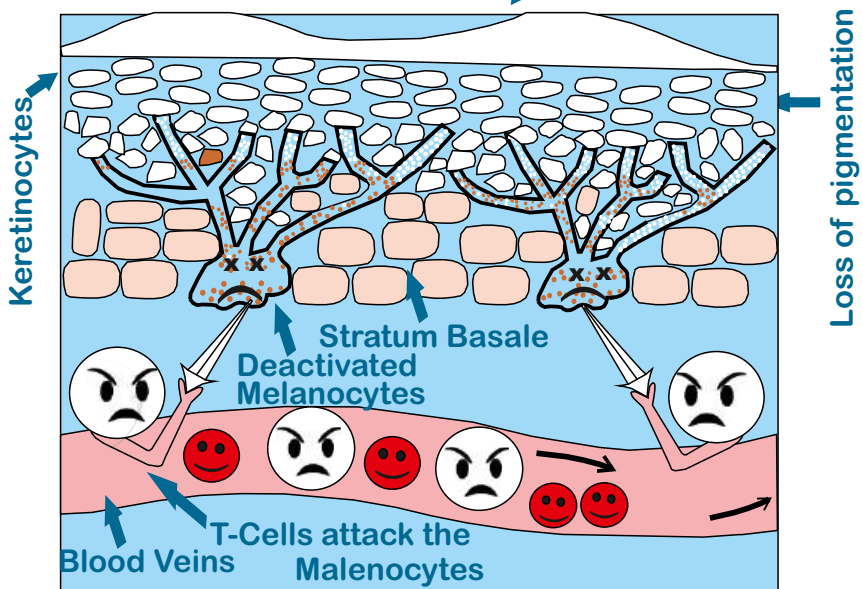
**NORMAL SKIN:**

**Normal Pigmented skin**



**DEPIGMENTED SKIN / VITILIGO:**

**White Patches**



## **PATHOGENESIS OF VITILIGO:**

Due to autoimmune disorder, T-Cells become overactive and attack the melanocytes. Melanocytes are the type of the skin cells, which are prime responsible to define the skin colour of epidermis (upper layer of skin). Due to absence of melanocytes, upper layer looks white, this condition is known as Vitiligo.

## **TREATMENT OF VITILIGO WITH COMBINATION THERAPY: IMMUNOMODULATOR, TOPICAL CREAMS/OINTMENTS:**

Progressive nature / spreading of Vitiligo can be prevented by Immunomodulators. By using certain topical ointments or creams, T-Cells overactive nature can be controlled or minimized & eventually melanocytes can be retained.

Topical ointment, i.e: Tacrolimus (0.03% for face application) and Tacrolimus (0.1% for other body parts except genital parts) can be applied daily at night (because sun exposure should be avoided).

- At least 30 Min-1 hr gap (after therapy session) between NBUVB Phototherapy session and Topical application is recommended.

- This can be applied up to 16-weeks without any significant or serious side effects and also this does not include any type of steroids.

Therefore Tacrolimus ointment is known as one of the safest topical ointment.

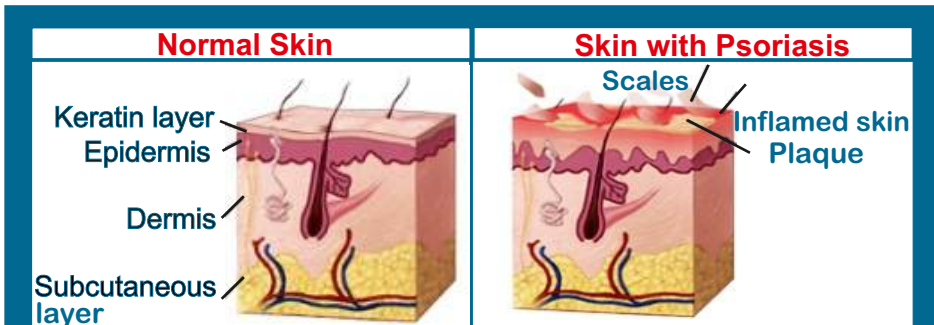
### **NBUVB Therapy:**

When NBUVB Phototherapy regime is followed as per earlier discussed exposure protocols, Vitiligo can be treated with good efficacy.

When desired skin is exposed with NBUVB radiation, melanocytes are stimulated, further melano blasts are proliferated and migrated, which results in repigmentation of skin.

Hence combination therapy, Immunomodulators (Immune system suppressor) + NBUVB Therapy brings synergetic action in the treatment of Vitiligo / Leucoderma. Eventually fastest recovery results are achieved

## PATHOGENESIS OF PSORIASIS:



### PSORIASIS:

Due to malfunction of autoimmune system, T-Cells react differently in such a manner that the skin cell are produced rapidly. Precisely speaking, in healthy skin, normal cycle of skin cell production is 28-30days, but in Psoriatic condition, skin cell production is 6-8 days. Thus don't allow enough time for the older cells to be dried up and new cells get piled up, eventually upper layer is appeared to be swollen, scaly with silvery flakes and red blister.

## TREATMENT OF PSORIASIS WITH COMBINATION THERAPY: IMMUNOMODULATORS ( IMMUNE SYSTEM SUPPRESSOR) + NBUVB THERAPY:

Spreading of disease can be prevented by immunomodulator. By using certain topical ointments or creams, T-cell overactive nature can be controlled or minimize and eventually abnormal cell producing cycle can be controlled.

Topical ointment, i.e: Tacrolimus (0.03% for face application) and Tacrolimus (0.1% for other body parts except genital parts) can be applied daily at night (because sun exposure should be avoided).

At least 30 Min - 1 hr gap (after therapy session) between NBUVB Phototherapy and Topical application is recommended

This can be applied up to 16-weeks without any significant or serious side effects and also this does not include any type of steroids.

Therefore Tacrolimus ointment is known as one of the safest topical ointment.

When NBUVB Phototherapy regime is followed as per earlier discussed exposure protocols, Psoriasis can be treated with good efficacy. When desired skin is exposed with NBUVB Phototherapy device, it suppresses T-cell activities, which results in prevention and control of premature production of unnatural cycle of skin cells.

Hence combination therapy, Immunomodulators (Immune system suppressor) + NBUVB Therapy brings synergetic action in the treatment of Psoriasis and ailment could be managed very well.

\* Note: Though there is availability of so many types of the topical creams/ ointments in the market, can be used as combination therapy, but highly recommended to consult your skin consultant or relevant Medical professional.

### FEW GOLDEN TIPS:

#### HOW TO USE NBUVB PHOTOTHERAPY DEVICE?

- ➔ During NBUVB Phototherapy session, Device should be kept as close as possible against white patch, even you may touch the device on white patch & must be carry out thrice a week or alternate day.
- ➔ As a thumb rule (in case of any type of skin), you should start the
- ➔ session for 60 Seconds on 1st day and during the next NBUVB session, phototherapy should be carried out for 75 Seconds.  
During each alternate session, go on increasing the exposure timing @ 15 seconds (60 sec + 75 sec + 90 sec + 105 sec + -----)  
until white patch seems to be light pink colour, this is called erathemic condition.
- ➔ For example light pink colour is perceived at 120 seconds, then that particular time will be compatible dose for your skin, will result in fast recovery from white patch
- ➔ Now you should expose the patch for 120 seconds for forthcoming each and every session, eventually will lead to fast recovery.

**Note:** In case of Photo sensitive skin, magnetic comb should be attached

#### FEW TIPS TO GET GREAT RESULTS:

- ➔ Apply suitable moisturizer to skin after phototherapy to retain good tone and texture of the skin
- ➔ Avoid excess water during bath
- ➔ Try to use luke warm water
- ➔ Try to use baby soap or mild body wash liquid
- ➔ Avoid direct sun light during out door activities or you may use sun screen having at least SPF:30

- ➔ This is recommended to take NBUVB Phototherapy session in dark room, otherwise spurious / ambient light may interfere to to desired radiation of exposed energy
- ➔ NBUVB Phototherapy device, 311nm should be used regularly with accurate timing
- ➔ Following Tests should be carried out, for fast recovery from the Vitiligo:
  1. Vitamin D3 (25-OH Vitamin D)
  2. Vitamin B12 (Serum)
  3. Folic Acid (Serum/RBC)
  4. Zinc (Serum)
  5. Copper (Serum)
  6. Hemoglobin/Ferritin (Iron Status)
  7. Thyroid (TSH (+/- Anti - TPO))

In case of any deficiency in the above described tests, always consult your Doctor. If above parameters / Nutrients are up to mark, you can expect fast recovery from Vitiligo.

- ➔ Take chewable tablet of calciquick D3, 60000 IU, by Dr Morepen, Dosage: once a week, can be taken regularly ( once a week basis) up to 6-months. Discontinue for month and again continue and so on ....., this will expedite the recovery rate @21% from Vitiligo
- ➔ Always follow the instructions of your Doctor / Dermatologist, as because he knows you and skin condition up to the mark
- ➔ For fast recovery and get rid of ailments, always make strong positive affirmations to your subconscious mind. Really it works!

### **Disclaimer:**

This hand book is not designed to enable any one to undertake any kind of phototherapy treatment independently, rather highly recommended to get appropriate supervision by suitably qualified medical professional. Guidelines and & treatment plan is suggested plan only. Medical professionals are free to adapt, amend and reuse the hand book contents at their own way.

Neither the manufacturer nor the trial based guidelines described in handbook will accept any responsibility or liability for any harm or side effect that may arise from the use of this device.

**\* SPECIFICATIONS CAN BE CHANGED WITHOUT PRIOR NOTIFICATION DUE TO CONTINUOUS R&D.**



**VISION TECH**

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DEALERS DETAILS :

Warranty: 5-Year (Except Lamp)

MFG. BY:

  
**VISION TECH**<sup>®</sup>  
**ELECTRONICS**

C/9, Bansidhar Estate  
Opp. Suprabhat Industrial Estate  
O/s Dariyapur Gate, Bardolpura  
Ahmedabad (Gujarat, India) - 380004  
M: 9925799352

E-mail: [info@visiontechproducts.com](mailto:info@visiontechproducts.com)Web Site: [www.visiontechproducts.com](http://www.visiontechproducts.com)**YOUTUBE**<http://www.youtube.com/@visiontechproducts>