

HOME PHOTOTHERAPY
BUYING GUIDE

You're Not Just Choosing a Device. You're Choosing How You'll Manage This.

Psoriasis, vitiligo, eczema, atopic dermatitis, and several other skin conditions all respond to light — but understanding what's actually happening in your skin, and how your dose is calculated, is what makes a treatment plan feel like something you're part of, not something being done to you.



LIGHT
CAN CHANGE
WHAT'S
POSSIBLE

Before We Start: A Patch, a Diagnosis, and a Hundred Open Tabs

It usually starts small. A patch that doesn't fade. A flare that keeps coming back. A word from a dermatologist that sends you straight to your phone, searching late at night for anything that explains what's happening and what you can actually do about it.

This guide isn't trying to sell you on phototherapy. It's trying to help you understand it — what it does to your skin, how your dose gets calculated, and how to choose a device and a support system that will still be there for you six months from now.

PHOTOTHERAPY MAY BE USED TO TREAT CONDITIONS INCLUDING:



VITILIGO
Pigment loss



PSORIASIS
Inflammatory plaques



ECZEMA
Inflammatory skin condition



ATOPIC DERMATITIS
Chronic inflammatory condition

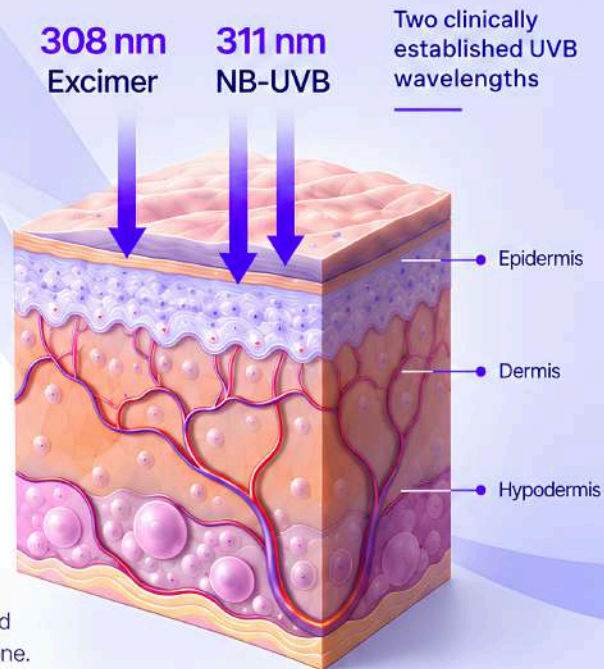
IN THIS GUIDE

- 01 UNDERSTAND the biology
- 02 EXPLORE wavelengths
- 03 LEARN about dosing
- 04 CHOOSE your device
- 05 BUILD your routine

What Light Actually does to Your Skin

Phototherapy isn't a metaphorical treatment — it works through specific, well-mapped biological mechanisms. Understanding them is often what turns "just sit under a light" into something that makes sense.

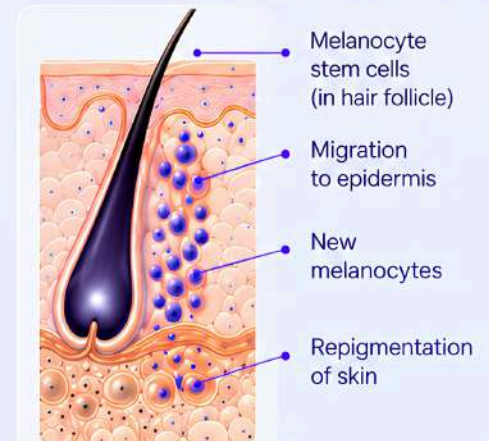
Ultraviolet light penetrates the skin to different depths depending on its wavelength, interacting directly with the cells responsible for your specific condition. Two things happen almost immediately: UV light dampens the activity of overactive immune cells (T-lymphocytes) sitting in the skin, and it slows the runaway multiplication of skin cells that drives conditions like psoriasis. Over repeated sessions, these two effects compound — which is why phototherapy is a gradual, cumulative treatment rather than an instant one.



01

Vitiligo — Melanocyte Biology: How Repigmentation Actually Happens

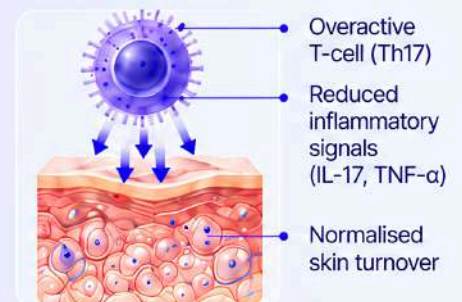
Vitiligo occurs when your immune system mistakenly attacks and destroys melanocytes — the pigment-producing cells in your epidermis — leaving depigmented patches. NB-UVB works in two ways here: it calms the autoimmune activity attacking existing melanocytes, and — more remarkably — it stimulates dormant melanocyte stem cells that live protected in the bulge region of your hair follicles, just below the skin's surface. Activated by UV exposure, these stem cells multiply, migrate upward and outward into the depigmented patch, and mature into fully functioning, pigment-producing melanocytes. This is why repigmentation in vitiligo often starts as small dots around hair follicles within a treated patch, gradually expanding and merging — it's literally new pigment cells being seeded from your own hair follicles.



02

Psoriasis — Slowing the Overactive Cycle

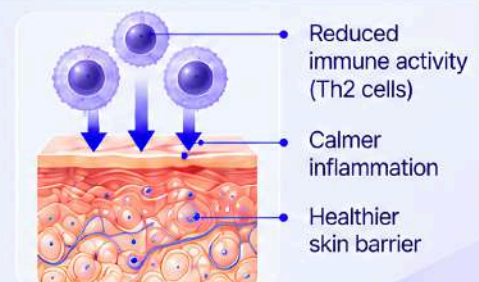
Psoriasis is driven by overactive T-cells (particularly a subset called Th17 cells) that trigger skin cells to multiply up to ten times faster than normal, causing the buildup of thick, scaly plaques. UV light induces programmed cell death (apoptosis) in these hyperactive T-cells directly in the skin, and reduces the inflammatory signals (like IL-17 and TNF-alpha) driving the cycle — allowing skin turnover to gradually normalise.



03

Eczema / Atopic Dermatitis — Calming the Immune Response

Eczema flares are driven by an overactive immune response (largely Th2-mediated) combined with a compromised skin barrier. UV light reduces the activity of inflammatory immune cells in the skin, and has been shown to reduce colonisation by *Staphylococcus aureus* bacteria that often worsen flares — together helping to break the itch-scratch-inflammation cycle.



LIGHT
CAN CHANGE
WHAT'S
POSSIBLE

Beyond the Four Core Conditions

Narrowband UVB and related phototherapies are also established treatments for several other skin conditions, through similar immune-modulating and anti-proliferative mechanisms:

05 Pityriasis rosea



06 Cutaneous T-cell lymphoma (mycosis fungoides)



07 Alopecia areata



08 Seborrheic dermatitis



09 Chronic pruritus (itching)



10 Lichen planus



If you've been prescribed phototherapy for a condition outside the four covered in depth in this guide, the same core principles — wavelength, dose accuracy, and dermatologist supervision — still apply.

Speak with your doctor about the specific protocol for your diagnosis.

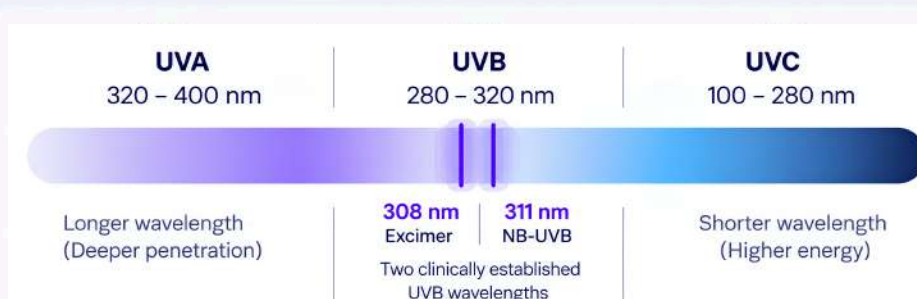


ALWAYS CONSULT YOUR DERMATOLOGIST

This guide supports your understanding, but your doctor's advice is essential for safe and effective use.

The UV Spectrum

DIFFERENT WAVELENGTHS. DIFFERENT EFFECTS.



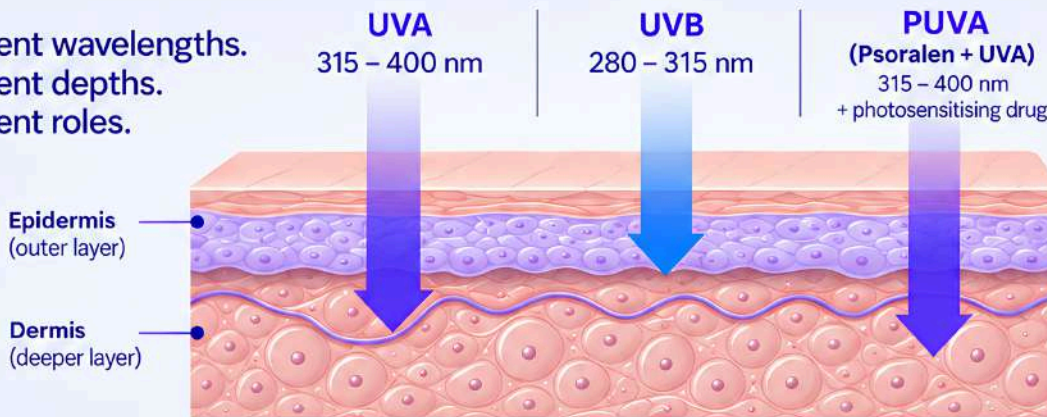
KEY TAKEAWAY

NB-UVB — whether delivered at 308nm (LED/excimer) or 311nm (fluorescent) — is used because it's effective across a range of skin conditions, with a favourable balance of efficacy and safety when used under proper guidance. Both wavelengths sit inside the same therapeutic band; which one your device uses depends on its light source, not the strength of the treatment.

UVA, UVB, and PUVA: The Three Approaches to Light Therapy

You may come across all three terms while researching treatment. They're related, but meaningfully different in mechanism, depth, and how they're used today.

Different wavelengths.
Different depths.
Different roles.



11



UVB (280–315 nm)

Penetrates mainly the epidermis (the skin's outer layer). Acts directly on skin cells and immune cells without needing any additional medication. Narrowband UVB (308–311nm) is the modern, refined form of this and the standard first-line phototherapy for psoriasis, vitiligo, eczema, and atopic dermatitis today.

12



UVA (315–400 nm)

Penetrates more deeply into the dermis. On its own, UVA has a much weaker therapeutic effect than UVB for most inflammatory skin conditions — which is why it's rarely used alone, and is instead paired with a photosensitising medication.

13



PUVA (Psoralen + UVA)

A psoralen drug (taken orally or applied topically) is absorbed into skin cells, and once activated by UVA exposure, binds to DNA and suppresses the excessive cell division and immune activity driving the disease. Historically a mainstay for psoriasis, vitiligo, and cutaneous T-cell lymphoma.

14



Why NB-UVB is now first-line

NB-UVB matches PUVA's effectiveness for many patients without requiring a photosensitising drug — meaning no post-treatment eye protection requirement, fewer drug interactions and GI side effects, and a better long-term skin-cancer safety profile with repeated use.

When PUVA Still Matters

PUVA hasn't disappeared from clinical practice. For thick, resistant plaques, palmoplantar (palm and sole) disease that NB-UVB struggles to penetrate, or cases where NB-UVB alone hasn't achieved adequate control, a dermatologist may still recommend PUVA — sometimes specifically because UVA's deeper penetration reaches disease activity that UVB cannot. This is a decision made case-by-case by your treating physician, not a default starting point.



DERMATOLOGIST
GUIDANCE
MATTERS

03 / HOW YOUR DOSE IS CALCULATED

How Your Actual Dose Gets Calculated: Fitzpatrick Type & MED

“Your dermatologist will set your dose” is true — but understanding how that number is actually derived makes the whole process feel less like a black box.

01

Step One: Fitzpatrick Skin Typing

The Fitzpatrick scale classifies skin into six types based on how it responds to sun exposure — specifically its tendency to burn versus tan. It's a starting reference point for estimating a safe initial UV dose and burn risk, not a measure of race or ethnicity.

Type	Typical Response to Sun	Starting Dose	Example Skin Tone
Type I	Always burns, never tans	Lowest	 Very fair
Type II	Usually burns, tans minimally	Low	 Fair
Type III	Sometimes burns, tans gradually	Moderate	 Light
Type IV	Rarely burns, tans well	Moderate–High	 Olive / Medium
Type V	Very rarely burns, tans easily	High	 Brown
Type VI	Almost never burns	Highest	 Deep brown

02

Step Two: MED Testing

Minimal Erythema Dose (MED) is the smallest dose of UV light that produces just-visible, faint redness on your skin 24 hours after exposure. It's the single most precise way to calibrate your treatment — more precise than Fitzpatrick type alone, since it measures your skin's actual response rather than an estimate.



Test dose grid

A small, unaffected area of skin is exposed to a series of increasing UV doses in a single visit, each dose applied to a separate small patch.



24-hour read

The patches are checked a day later. The lowest dose that produced faint, well-defined redness is your MED.



Starting dose set as a fraction of MED

Your treatment typically begins at a set percentage of your MED, calibrated to your specific condition and Fitzpatrick type.



Gradual escalation

Each session's dose is increased by a small, protocol-defined percentage — provided the previous session didn't cause excess redness — with holds or step-backs built in if your skin reacts.



WHY THIS APPROACH IS SAFER

Using your actual skin response (MED) along with your Fitzpatrick type helps ensure your treatment is effective while minimising the risk of overexposure.

Individualised dosing leads to better results, fewer side effects, and a safer long-term experience.

Fluorescent, LED, or Excimer: The Difference That's Easy to Miss.

Two devices can both claim "narrowband UVB, 311nm" and still perform very differently over months of use. The light source technology behind that number is what separates them.



The Hidden Problem with Fluorescent Lamps

Most home phototherapy devices use fluorescent lamp technology. It's clinically familiar and well-studied — but output degrades as the bulb ages. A session timed for the same number of seconds in month one and month nine can deliver a meaningfully different actual dose, and a timer-only device gives no way to detect that drift.



FLUORESCENT

- ✗ Output decreases with age
- ✗ Same time ≠ same dose
- ✗ No way to detect the decrease



Why Dosimetry — Not Just a Timer — Is the Safer Standard

A device with a built-in dosimeter measures actual UV output in real time and stops the session once the correct dose is delivered, regardless of how the lamp is performing that day. This is the single most important technical distinction after wavelength itself — and it's precisely where UVThera's approach differs from most timer-based competitors.



BUILT-IN DOSIMETRY

- ✓ Measures actual UV output
- ✓ Stops at the correct dose
- ✓ Consistent and safe treatments



LED and Excimer Sources Hold Their Output Longer

LED-based and excimer light sources degrade far more slowly than fluorescent tubes, maintaining consistent output across thousands of treatment hours rather than the roughly 1,000-hour lifespan typical of fluorescent lamps. That stability compounds over a treatment course that can run six to twelve months or longer.



LED

- ✓ More stable output
- ✓ Longer lifespan



EXCIMER

- ✓ Highly targeted
- ✓ Long-lasting performance

The Bottom Line

The technology behind the number matters. Whether it's fluorescent, LED, or excimer, what sets a professional device apart is how accurately it measures and delivers the dose — not just what it claims to emit.



ACCURACY
BUILDS
BETTER
OUTCOMES

When Phototherapy Is Combined with Other Treatments

If you're already on a systemic medication for your condition, you may be wondering whether phototherapy adds anything — or complicates things. For many patients, the honest answer is that combination treatment can produce meaningfully faster and deeper results than either approach alone, though it needs to be managed carefully.



Why the Combination Can Work So Well

Systemic immunosuppressants and biologics — methotrexate, cyclosporine, acitretin, or newer biologic agents targeting TNF-alpha or IL-17/23 — work throughout the body to calm the immune activity driving conditions like psoriasis. Phototherapy works locally, directly at the skin. Used together under supervision, they can address the disease from two directions at once, often allowing lower doses of each and faster clearance than either alone — a well-established approach in dermatology for resistant or extensive disease.

Why This Isn't a Decision to Make on Your Own

Combination therapy is powerful, but it comes with real interactions your dermatologist needs to manage directly:

15

Some medications, including methotrexate, can increase skin photosensitivity — raising burn risk at doses that were previously well-tolerated.

16

Cyclosporine combined with UV light is generally approached with particular caution, since both independently carry some long-term skin-cancer risk considerations that can compound with combined use.

17

Topical calcineurin inhibitors (like tacrolimus) are often advised to be used with caution alongside UV exposure, per manufacturer guidance.



Key Takeaway

None of this means combination therapy is unsafe — it's one of the more effective strategies dermatology has for stubborn cases. It simply means the specific combination, sequencing, and dosing has to be set and monitored by the physician managing your overall treatment plan, not adjusted independently at home.

A Simple Framework for Comparing Devices

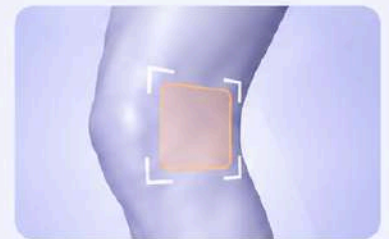
Strip away the marketing language, and every home phototherapy device can be judged against four questions.

01



Fit

Does the device match your treatment area — a small patch, multiple regions, or wide body coverage — and your setting, home or clinic?



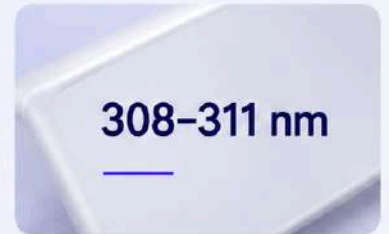
02



Wavelength Clarity

Is the wavelength stated precisely (308–311nm, narrowband UVB), or is it a vague "UV light" claim with no technical specification?

308–311 nm



03



Dose Control

Does it measure actual delivered dose (photodiode dosimetry), or only count elapsed seconds on a timer?



04



Support

Is there a certified regulatory status, a manufacturer warranty, and a path for your dermatologist to stay involved in your protocol?



The Bottom Line

The right device is the one that is transparent about its technology, precise in its specifications, and designed to support safe, effective, long-term use — in partnership with your dermatologist.

The Part That's Easy to Overlook: Who's With You Between Sessions

A device treats your skin for a few minutes, a few times a week. The rest of the time — remembering the schedule, tracking whether it's working, knowing when to flag something to your doctor — is where most home phototherapy journeys quietly succeed or fall apart.

The UVThera App (Patient)



Guided onboarding

for your specific condition
and treatment area



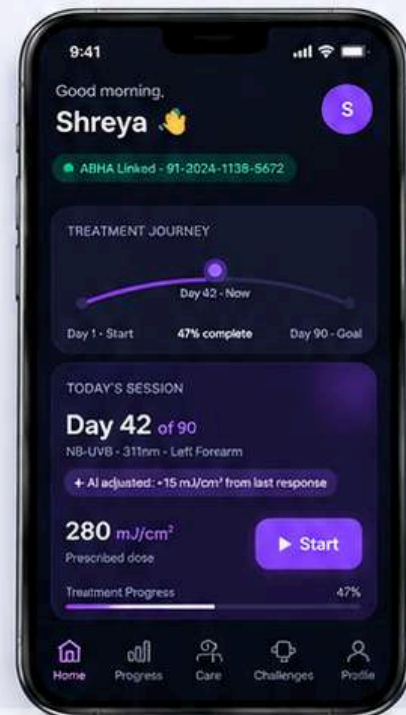
Body-part selection

so each session is logged
against the exact area treated



Session tracking

so you and your dermatologist
see your actual history



The UVThera Clinician Dashboard



Patient records

with full dose and session history



Protocol audit trails

including MED results and
Fitzpatrick-based dosing decisions



Device inventory

and appointment tracking,
keeping care coordinated end to end



Connecting Home & Clinic

Together, the app and dashboard close a gap home phototherapy has always struggled with: the distance between a patient managing treatment alone and a doctor who can only see what happens in the room.



Patient
at Home



Better Data
Better Care



Dermatologist
in Clinic

Matching Device Type to Condition and Area

Different conditions and treatment areas call for different devices. Here's a simple guide to help you understand which type of UVThera device is best suited for your needs.

TREATMENT NEED	BEST-FIT FORMAT	WHY
01 A few small, defined patches	Handheld pen	Precise, portable, minimal exposure of surrounding healthy skin.
02 Medium patches, everyday home use	Compact home handheld	Time or dose mode, follows a dermatologist's protocol session after session.
03 Wide-area coverage, whole-body involvement	Comb-style wand	Larger coverage per session, efficient for widespread psoriasis, vitiligo, or eczema.
04 Persistent localised lesions needing higher output	Compact excimer lamp	True excimer fluence in a smaller, family/home-clinic form factor.
05 Resistant or complex lesions, clinical setting	Clinical excimer laser	Higher fluence, built-in MED testing, precision dosing under supervision.
06 Professional practice, untethered precision	Flagship LED system	Dual modes, pilot-beam targeting, MED testing, battery or AC operation.

09 / THE FULL UVTHERA RANGE

The Full UVThera Range

Six devices, spanning a first home handheld through to *clinical-grade excimer systems* — so the device you choose can grow with your *treatment rather than being replaced by it*.

01

ENTRY / WIDE-AREA

UVThera 311nm UVB Wand

Fluorescent UVB Lamp · 311nm

Comb-style applicator for wide skin coverage — the value pick for whole-body psoriasis, generalised vitiligo, and chronic eczema across larger zones.

Coverage: 48 cm² | Intensity: ≥ 2 W/cm² | Distance: 3 cm | Weight: 650 g

02

COMPACT / PRECISION

UVThera 308nm LED UVB Pen

LED · 308nm · 4-LED array

Pen-sized precision device for small, delicate areas — near the lips, eye corners, fingers. The smallest, most portable device in the range.

Coverage: 2.25 cm² | Dose range: 0.01–5 J/cm² | LED life: 3,000+ hrs | Weight: 63 g

03

CORE / HOME HANDHELD

UVThera 308nm LED UVB Home

LED · 308nm · Adjustable power

The everyday home handheld. Time or dose modes let you follow your dermatologist's protocol precisely, session after session.

Coverage: 9.62 cm² | Power: 100–1000 mW | Energy: 0.1–30 J/cm² | Modes: Time + Dose

04

ADVANCED / EXCIMER LAMP

UVThera Plus Excimer 308 UVB

XeCl Excimer Lamp · 308nm

True 308nm excimer technology in a compact, family/home-clinic form — for persistent localised lesions needing higher clinical output.

Coverage: ~7.5 cm² | Fluence: 30–4,200 mJ/cm² | Session time: 1–140 sec | Cooling: Air-cooled

05

PRO / CLINICAL EXCIMER

UVThera Pro 308nm Excimer Laser

XeCl Excimer System · 308nm

The clinical-grade choice — monochromatic excimer with a full built-in MED-testing workflow. For clinics and serious home use under supervision.

Max spot: 16 cm² | Optical power: 30 mW/cm² ±20% | Fluence: 30–4,200 mJ/cm² | MED test: Built-in

06

PRO MAX / LED FLAGSHIP

UVThera Pro Max 308nm LED System

LED System · 308nm · Red pilot beam

Flagship LED system with dual modes and pilot-beam targeting — built for precision, flexibility and clinical confidence.

Treatment area: 45 × 45 mm | Peak wavelength: 308 nm | Irradiance: 20 ± 20% mW/cm² | Max power: Up to 1.0W

Warranty & Support

A phototherapy device is a months-to-years commitment, not a one-time purchase — so what happens after you buy it matters as much as the device itself.

01



Manufacturer Warranty

Every UVThera device is covered against manufacturing defects from the date of purchase, with straightforward repair or replacement if something goes wrong under normal use.

02



Dedicated Patient Support

A direct support line for device setup, troubleshooting, and general questions — so you're never left figuring out an error message or a session issue on your own.

03



Clinician Onboarding

Dermatologists prescribing UVThera devices get dedicated onboarding support for the clinician dashboard, protocol setup, and MED-testing workflows.



Exact warranty duration, coverage terms, and support channels are confirmed at the time of purchase — ask the UVThera team for the current policy specific to your device.

Caring for Your Skin Around Every Session

The treatment itself takes minutes. What you do just before and just after each session is what keeps your skin comfortable and your results on track.



Before

- 01 Cleanse the treatment area — no perfumes, retinoids, or alpha-hydroxy acids beforehand.
- 02 Confirm you're not starting any new photosensitising medication.
- 03 Check the device's protective eyewear and shields are in place.



During

- 04 Follow your dermatologist's set dose or time exactly.
- 05 Keep eyes closed or protected throughout, even for face treatment.
- 06 Hold the recommended distance consistently for even exposure.



After

- 07 Apply a gentle, fragrance-free moisturiser to the treated area.
- 08 Avoid additional sun exposure on treated skin for the rest of the day.
- 09 Log the session in your app and photograph progress under consistent lighting.



A faint pink response within a few hours of a session, fading within a day, is a normal sign the dose reached the therapeutic threshold. Persistent redness, blistering, or discomfort beyond 24–48 hours is not normal, and is your cue to pause and check in with your dermatologist.

Safety, Certification, and Where Your Dermatologist Fits In



Regulatory Certification

Certification is a regulatory fact, not a marketing badge. Look specifically for CDSCO licensing on any phototherapy device sold in India — it confirms independent evaluation against medical device safety and performance standards. A device with no visible regulatory information should be treated as unverified.



Who Should Consult a Dermatologist Before Starting

Patients on photosensitising medications, anyone with a personal or family history of skin cancer, those with a history of photosensitivity disorders, and patients on immunosuppressive therapy should have a dermatologist confirm home phototherapy is appropriate before beginning.

Frequently Asked Questions

01

Is home phototherapy really as effective as going to a clinic?

Clinical research comparing home-administered narrowband UVB against outpatient hospital treatment has found it non-inferior for psoriasis, with comparable results also reported for vitiligo.

02

What's the difference between UVB, UVA, and PUVA?

UVB acts directly on the skin without medication and is the modern first-line approach. UVA alone is weak against these conditions, so it's paired with a psoralen drug (PUVA) to become therapeutic. PUVA is still used for resistant or thick disease, but NB-UVB has become the default first choice for most patients.

03

How is my starting dose actually decided?

Your dermatologist typically combines your Fitzpatrick skin type with a Minimal Erythema Dose (MED) test — a small calibration test that finds the lowest dose that produces faint redness on your skin — to set a safe, effective starting point, then escalates gradually from there.

04

I'm on methotrexate or a biologic — can I still do phototherapy?

Often yes, and combination treatment can produce faster results — but it needs to be planned and monitored by your dermatologist, since some medications affect photosensitivity and long-term safety considerations.

05

How is a dosimeter different from a timer?

A timer only counts seconds. A dosimeter measures the actual UV energy reaching your skin and stops the session automatically once the prescribed dose is delivered.

06

What does the warranty cover?

UVThera devices are covered against manufacturing defects, with dedicated patient support and clinician onboarding included. Ask the UVThera team for the specific terms and duration for your device.

References

Cited Research

The claims about home vs. clinic phototherapy outcomes in this guide draw on the following peer-reviewed studies.

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This guide is for general informational purposes and does not replace a consultation with a qualified dermatologist. Treatment plans, dosing, and device selection should always be determined by your prescribing physician.