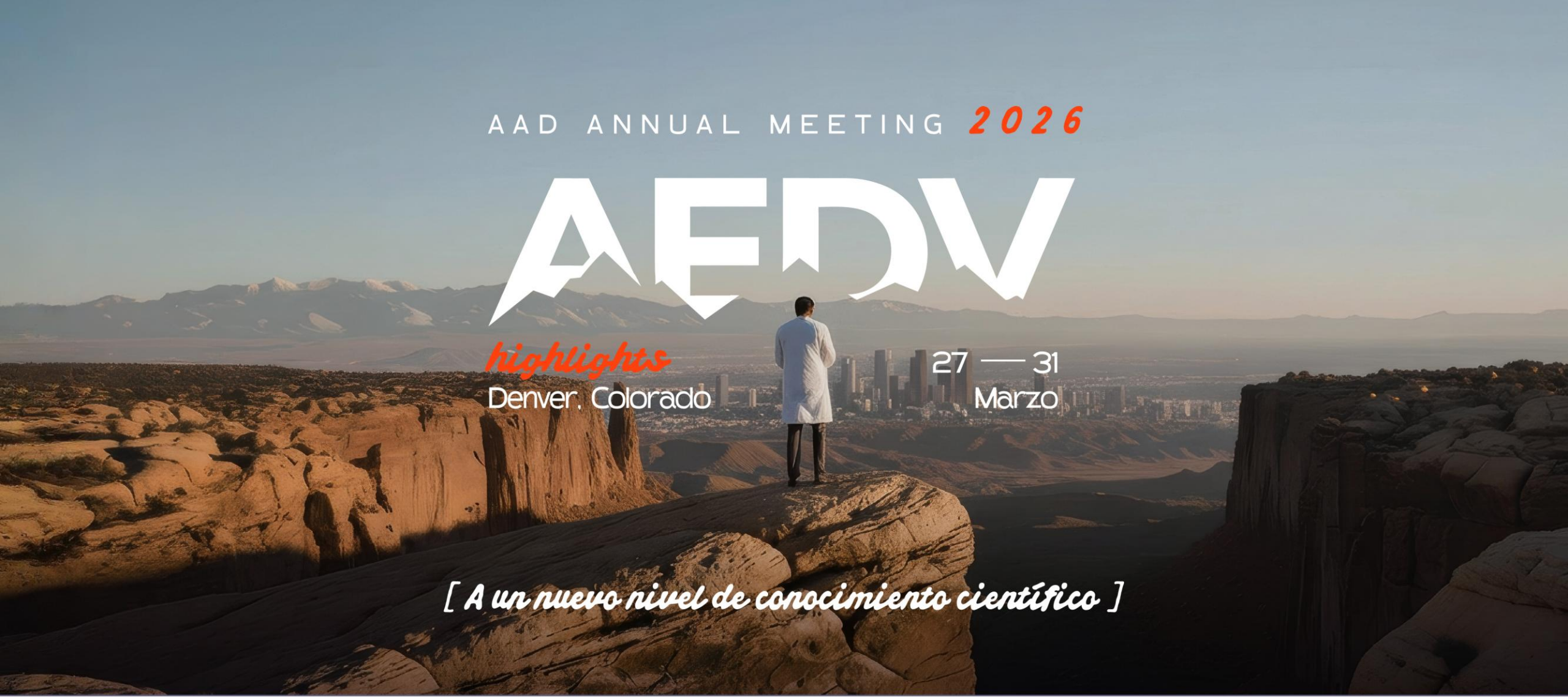

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AAD ANNUAL MEETING 2026

AEDV

highlights

Denver, Colorado

27 — 31 Marzo

Fotodermatosis y Fotobiología

Servicio Navarro de Salud
Osasunbidea

Alejandro Tomás Esteban Escudero

Hospital Reina Sofía – Tudela, Navarra, España

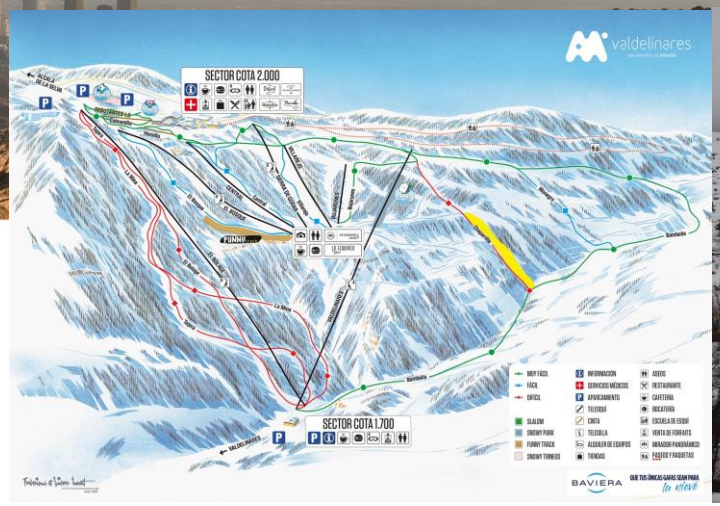
highlights
Denver, Colorado

AAD ANNUAL MEETING 2026

27 — 31

Denver › Elevación

1,609 m



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NO TENGO CONFLICTOS DE INTERÉS

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Denver, Colorado

AAD ANNUAL MEETING 2026

27 — 31
Marzo

Fotoexposición y Fotoprotección

U087 - Sunlight: Friend or Foe

- Director: Henry W. Lim, MD, FAAD
- Speaker: F. Yolanda Gilaberte, MD, IFAAD

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Original Article · Journal of INTERNAL MEDICINE
Click here to view the Editorial Comment by N. G. Jablonski · doi: 10.1111/joim.12251

Avoidance of sun exposure is a risk factor for all-cause mortality: results from the Melanoma in Southern Sweden cohort

P. G. Lindqvist[1], E. Epstein[2], M. Landin-Olsson[3], C. Ingvar[4], K. Nielsen[5], M. Stenbeck[6] & H. Olsson[7]

Relationship between sun exposure and global mortality

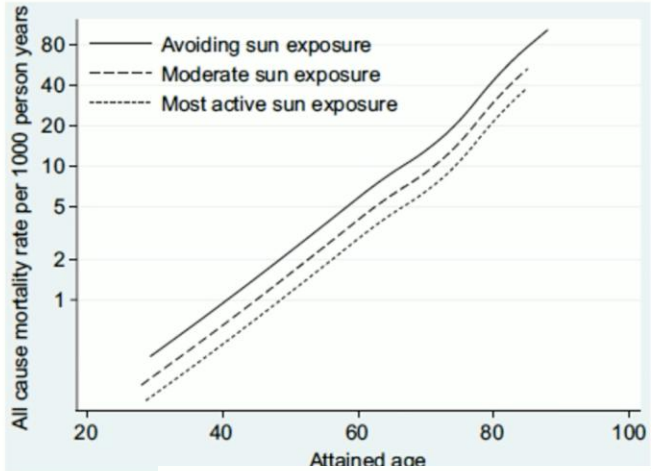
29,518 Swedish women

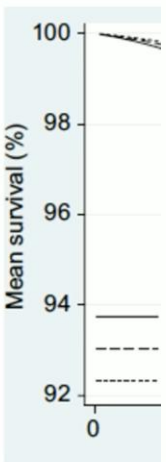
Age: 25-64 years

20-Year Prospective Study

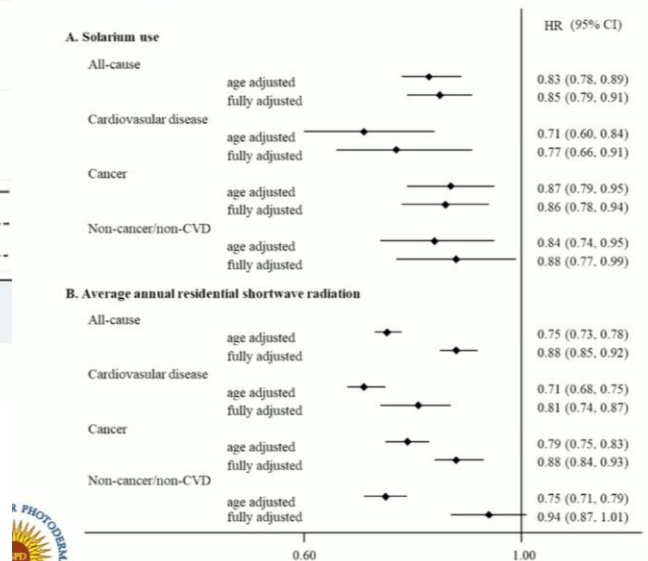
Mortality inversely related to sun exposure

J intern Med 2014;276:77-86





Associations between ultraviolet (UV) exposure and mortality among older adults in the United Kingdom (UK)



Stevenson AC, et al. Health´& Place 89 (2024)103328

- 502,412 participants enrolled in the UK Biobank cohor
- 395,086 participants had complete information
- median follow-up of 12.7 years
- Adjusted by many epidemiological variables

Systematic Effects of Sunlight and Ultraviolet Radiation: A Decade Review of Mortality, Cardiovascular, Cancer and Infectious Disease Outcomes

Jasira A. Ziglar, Rebecca L. Quiñonez, Lydiah Fridah M. Mpyisi, Indermeet Kohli, Yolanda Gilaberte, Henry W. Lim

Mortality & Cardiovascular Protection

12% Lower Risk of All-Cause Mortality
Increased annual shortwave radiation exposure is associated with significantly lower overall mortality risks.

Oxido nitrico

Natural Blood Pressure Regulation
UVA exposure mobilizes nitric oxide in the skin, promoting vasodilation and lowering blood pressure.

Reduced Cardiovascular Incidents
Low sunlight exposure is linked to higher hypertension odds and increased cardiac arrest risk.

Immunity & Internal Malignancies

Resistance to Infectious Diseases
Higher UV exposure correlates with lower incidence and mortality for COVID-19 and Tuberculosis.

Protection Against Internal Cancers
Inverse associations found for lymphoma, breast, and colorectal cancers, though results vary by organ.
Positive association with cervix uteri and liver cancer

UV-Mediated Immune Modulation
UV exposure may strengthen adaptive immunity by increasing immune diversity and B/T cell responses.

Review Breakdown: 28 Peer-Reviewed Studies

Infectious Diseases	12 Studies | Inverse association with COVID-19 and TB.	Internal Malignancies	6 Studies | Potential protective effect for most types.
All-Cause Mortality	6 Studies | Higher UV exposure linked to longer life.	Cardiovascular Health	4 Studies | Lower BP and reduced hypertension risk.

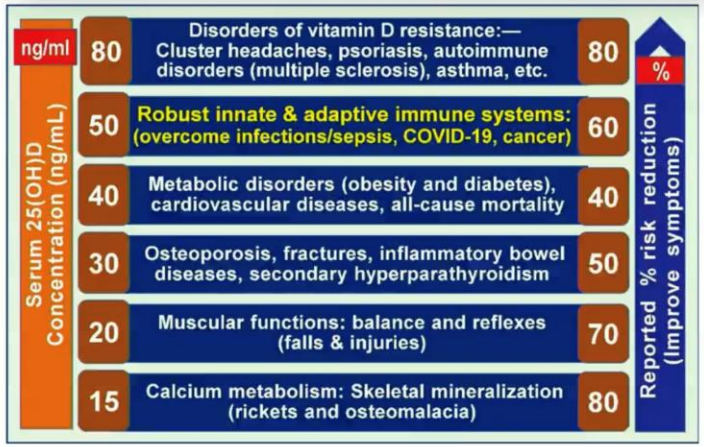
Submited for publication

Mechanisms of the healthy effects of Sunlight

Review > Nutrients. 2025 Jan 14;17(2):277. doi: 10.3390/nu17020277.

Vitamin D: Evidence-Based Health Benefits and Recommendations for Population Guidelines

William B Grant [1], Sunil J Wimalawansa [2], Pawel Pludowski [3], Richard Z Cheng [4 5]



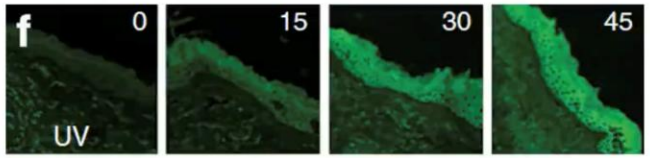
NO
Nitric oxide

UVA Irradiation of Human Skin Vasodilates Arterial Vasculature and Lowers Blood Pressure Independently of Nitric Oxide Synthase

Donald Liu[1], Bernadette O. Fernandez[2], Alistair Hamilton[3], Ninian N. Lang[4], Julie M.C. Gallagher[5], David E. Newby[4], Martin Feelisch[2] and Richard B. Weller[1,3]

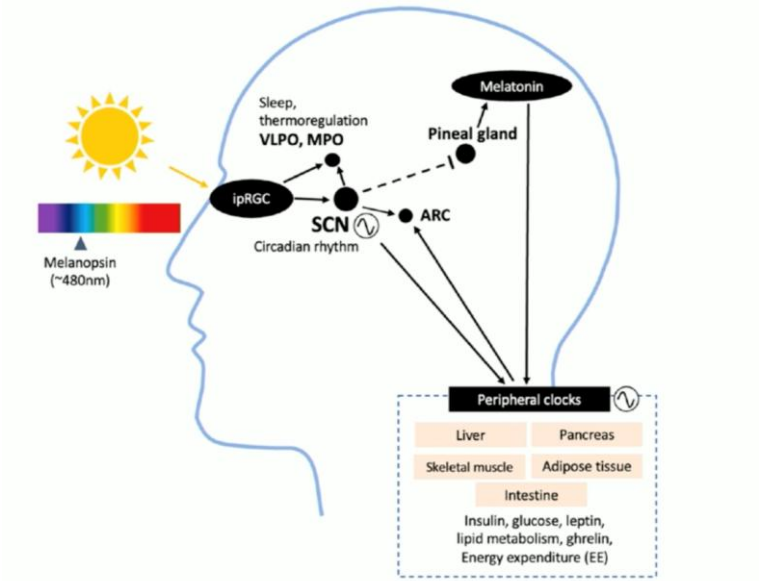
NO very abundant on the skin

24 volunteers irradiated with 2 UVA MED



UVA Lowered their blood pressure and increased blood nitrite concentration

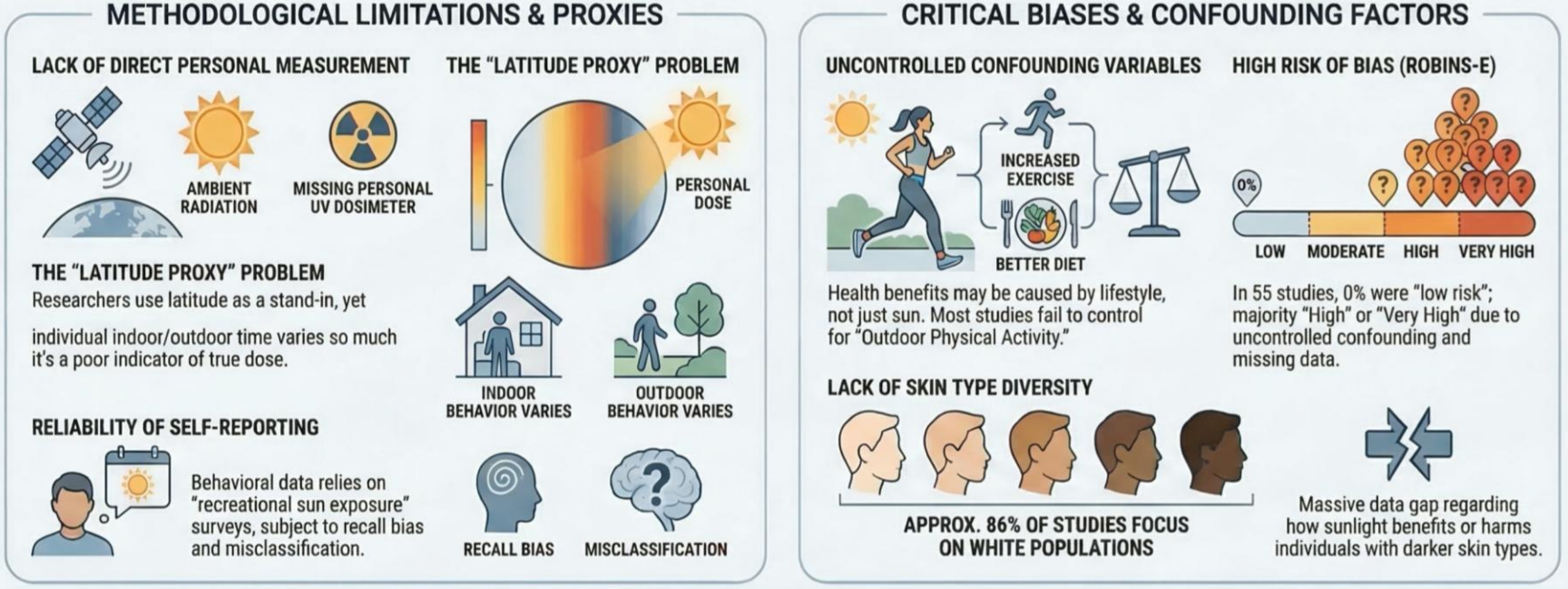
Conclusion: UVA induces the passage of NO from the skin into the blood.



doi.org/10.3390/nu15061391

salud servicio aragonés de salud | Hospital Universitario Miguel Servet

Scientific evidence for systemic health benefits remains inconclusive due to significant limitations and biases.

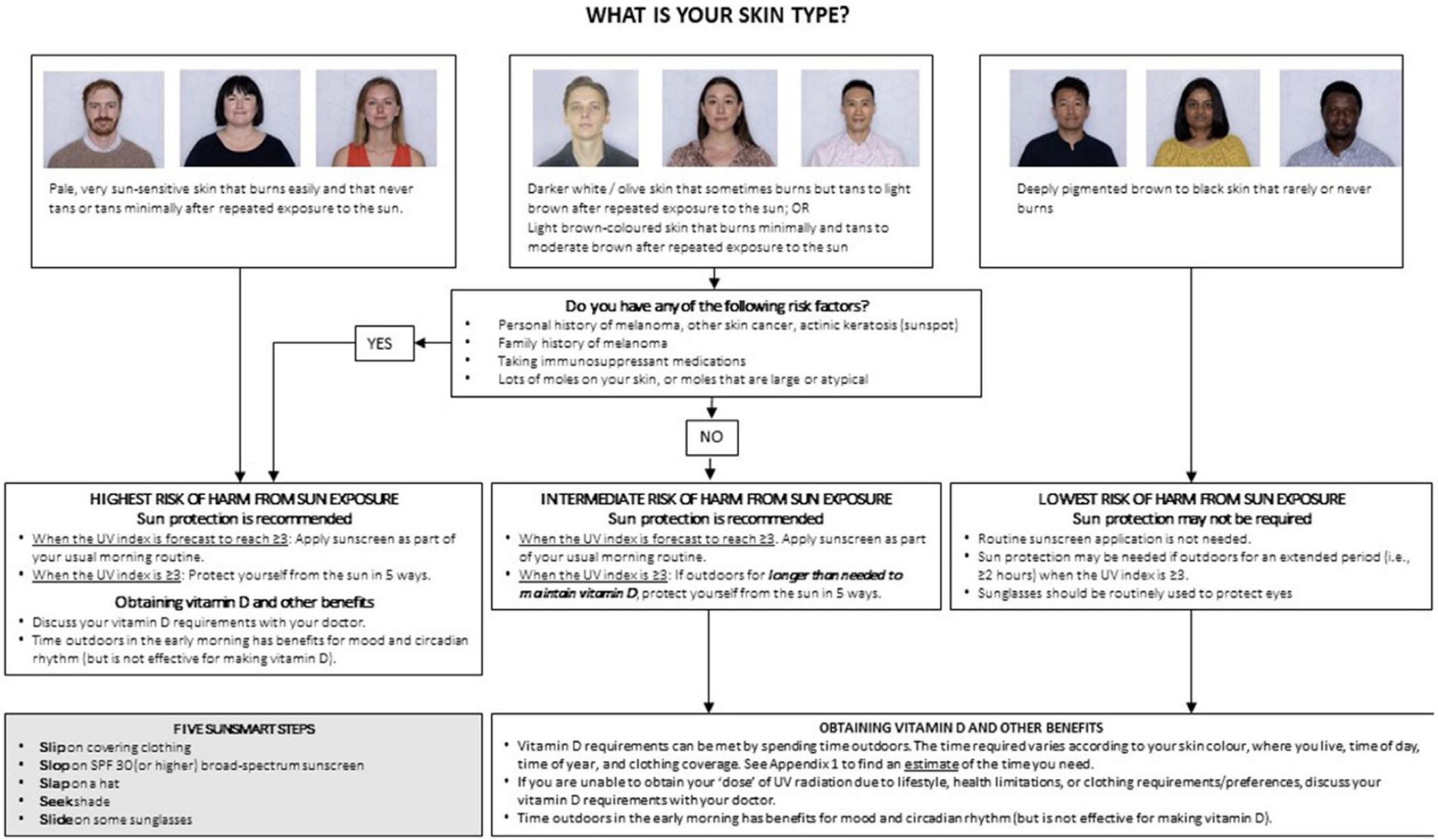


Submitted for publication

PRIMARY MORTALITY OUTCOMES & EVIDENCE

Mortality Outcome	General Trend of Evidence	Data Certainty
Skin Cancer	Harmful (Increased Risk)	High
Internal Cancers	Often Beneficial (Lower Risk)	Mixed
All-Cause / CVD	Inconsistent / Mixed	Low

Figure 1: Risk-stratified advice regarding balancing the risks and benefits of sun exposure.



Fotoprotección Biologica

Non-filtering PINGs in Sunscreens

Brown A, et al. Br J Dermatol. 2025 May 19;192(6):1132
Krutmann J, et al. Photodermatol Photoimmunol Photomed. 2025 Nov;41(6):e70062

Non-filtering photoprotective ingredients (PINGs):

- Systematic review – up to Dec 2022
- 2380 publications, 1750 PINGs
- 85% of PINGs were supported by weak or very weak evidence, with only 148 PINGs supported by any form of clinical study.
- Only 48 PINGs (2.7%) were supported by strong (21, 0.9%) and very strong (27, 1.5%) evidence.

Non-filtering PINGs in Sunscreens: Top Performers

Brown A, et al. Br J Dermatol. 2025 May 19;192(6):1132
Krutmann J, et al. Photodermatol Photoimmunol Photomed. 2025 Nov;41(6):e70062

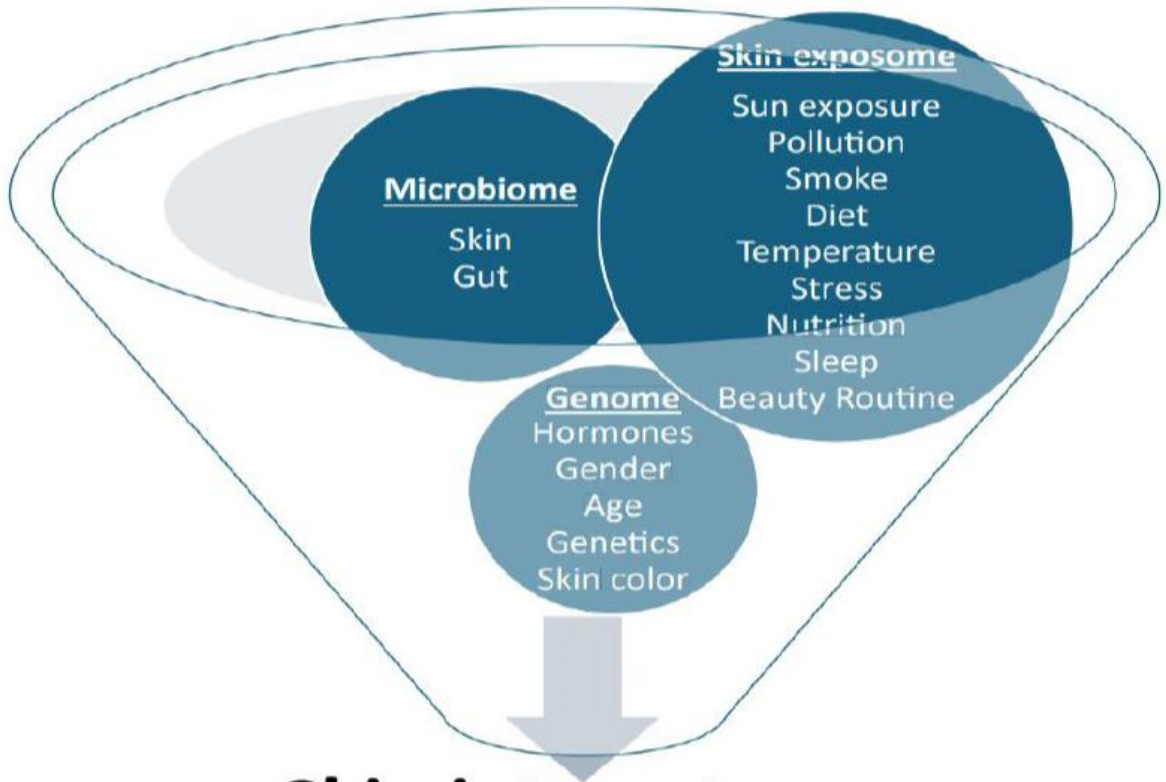
- l-Ascorbic acid (vitamin C): most effective against oxidative stress;
- Nicotinamide (vitamin B3): most effective at reducing UV-induced immunosuppression;
- Green-tea polyphenol (epigallocatechin gallate): anti-inflammatory properties;
- Tocopheryl acetate (vitamin E): limiting erythema;
- Thiamidol (isobutylamido thiazolyl resorcinol): best-supported depigmenting agent for reducing UV-induced hyperpigmentation (tyrosinase inhibitor);
- n-Acetyl-l-cysteine: strongest evidence for preventing photoaging through reactive oxygen species scavenging;
- Photolyase, a DNA repair enzyme: strong evidence in reducing DNA damage and preventing apoptosis.
- 2-mercaptonicotinoyl glycine (2-MNG; Melasyl): depigmenting agent (binds melanin precursors)

NEWS AND PERSPECTIVES

The Changing Landscape of Photodermatology

David X. Gao[1] and Henry W. Lim[1,2]

Journal of Investigative Dermatology (2025) **145,** 1562–1565; doi:10.1016/j.jid.2025.02.008



highlights
Denver, Colorado

AAD ANNUAL MEETING 2026

27 — 31
Marzo

Láser y otras fuentes de luz

1:00 PM
4:00 PM

S044 What's New and What's True for Energy Based Devices in Dermatology

Mile High 2C

3 CME | Symposium

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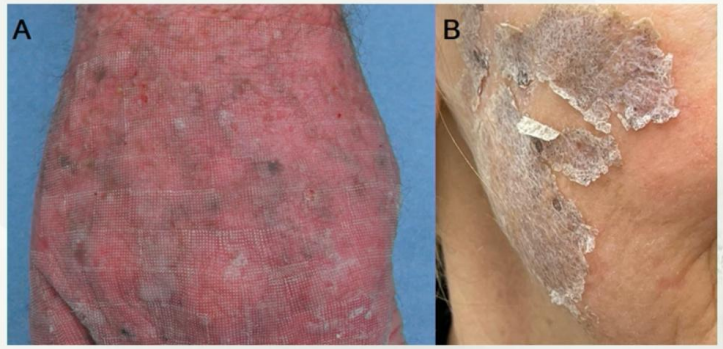
Skin Cancer **Prevention**



- **Removal of DNA-damaged** keratinocytes
- **Activation of the IGF-1 pathway** via increase in replicating non-senescent fibroblasts
- **Immunomodulation** by recruitment of immune cells

Lasers in Medical Science (2025) 40:70
https://doi.org/10.1007/s10103-025-04327-9

REVIEW ARTICLE

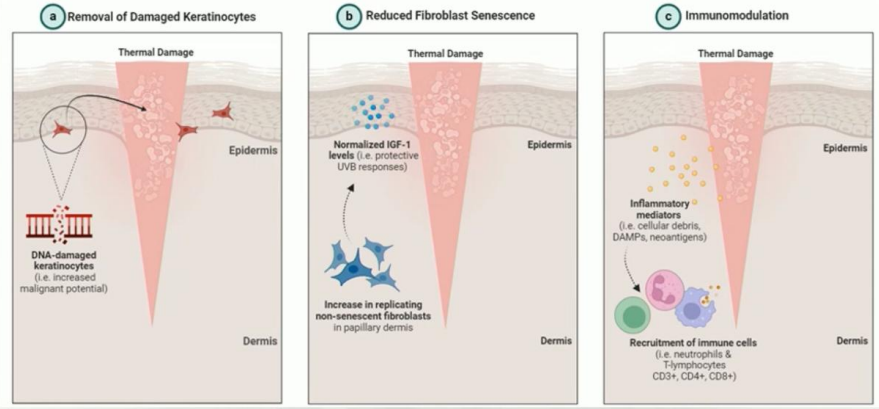
The evolving landscape of laser-based skin cancer prevention

Emily Wenande[1] · Molly Wanner[2,3] · Fernanda H. Sakamoto[3] · Uwe Paasch[4] · Merete Haedersdal[1,3,5]

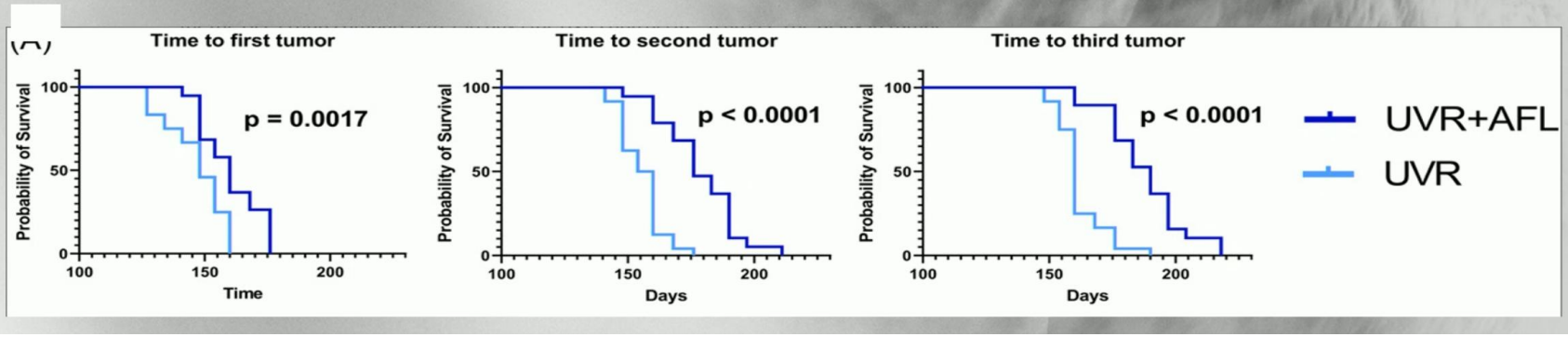
Key points

- Current prophylactic efforts have failed to stem rising rates of skin cancer, highlighting the need for alternative prevention strategies.
- Ablative and nonablative fractional infrared lasers have the potential to reduce and delay development of skin cancer and precursor lesions.
- Multiple mechanisms are proposed to drive these prophylactic effects, including removal of DNA-damaged epidermal cells, activation of the insulin-like growth factor-1 pathway, and immunomodulation.

Potential Mechanisms of Fractional Laser-Based Keratinocyte Carcinoma Prevention



Las Surg Med 2023;55(1):73-81



Dermatol Surg. 2026 Feb 1;52(2):108-112. doi: 10.1097/DSS.0000000000004777. Epub 2025 Jul 15.

Pulsed Dye Laser Treatment is Associated With Decreased Development of Subsequent Keratinocyte Carcinoma

Jamie Hu [1], Travis Benson [2], Saud Aleissa [1 3], David Ozog [4 5], Mathew Avram [1]

Affiliations + expand

PMID: 40662586 DOI: 10.1097/DSS.0000000000004777

Abstract

Background: Keratinocyte carcinomas (KCs) are the most common cancers in the United States. Despite existing preventative strategies, their incidence continues to rise, highlighting a need for better intervention. The pulsed dye laser (PDL) has a myriad of medical indications but has not been studied in skin cancer prevention.

Objective: The objective of this study was to assess the effect of PDL treatment on subsequent facial KC development.

Materials and methods: A retrospective cohort study was conducted on patients with a history of facial KC who received treatment at the Dermatology Laser and Cosmetic Center at Massachusetts General Hospital between 2000 and 2024.

Results: Fifty-nine patients with a history of facial KC who received PDL treatment and 59 matched controls met inclusion criteria for the study. Subsequent facial KC was observed in 27.1% of PDL-treated patients, compared with 54.2% of controls (RR 0.50, p = .0047). After adjusting for age, sex, and skin type, control subjects remained at a higher risk for developing new facial KC compared with PDL-treated patients (HR 2.88, p = .0008).

Conclusion: These data suggest a potential association between PDL treatment and a reduced rate of subsequent facial KC development in patients with a history of KC.

% of Subsequent Facial KC Development

27.1%
PDL-Treated

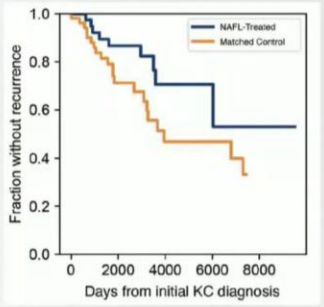
54.2%
Matched Controls

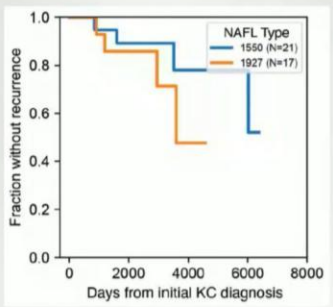
Non-treated controls were **twice as likely** to develop a subsequent KC**, average follow-up time 8.6 years**

Clinical Evidence
Non-ablative Fractional Laser

- Retrospective cohort study
- 43 patients with a history of prior facial KC who received
- 52 matched controls with a prior history of facial KC but no NAFL
- Mean follow-up ~ 7.5 years after laser treatment

	NAFL Treated	Matched Controls	Odds Ratio	*p*
N	43	52		
Subsequent KC development				
Development (%)	9 (20.93)	21 (40.38)	0.52 (RR)	.049
No development (%)	34 (79.07)	31 (59.62)		
Mean time to subsequent KC diagnosis (d)	2,361.33 (±1800.85)	2,255.19 (±1968.64)		





- Facial KC development in 20.9% NAFL-treated vs 40.4% control (p=0.049
- Controls developed new KC significantly sooner than NAFL (p=0.033)

Ref. Benson TA et al. Derm Surg 2023

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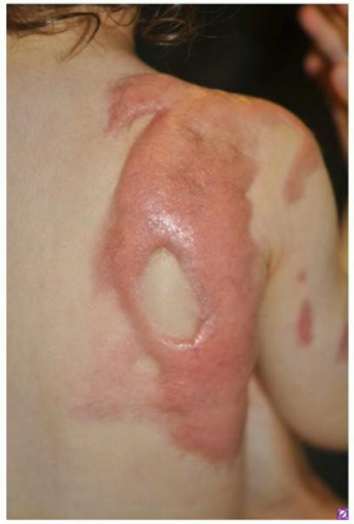
SCARS ARE PREVENTABLE..

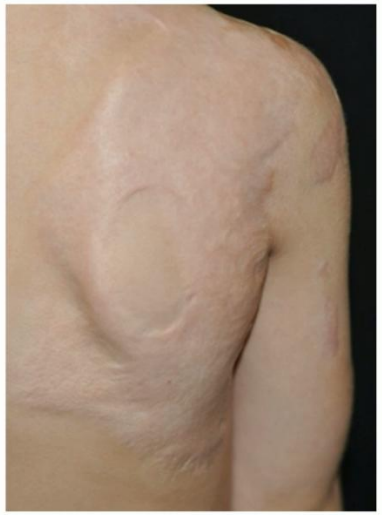
Intervene before a scar matures

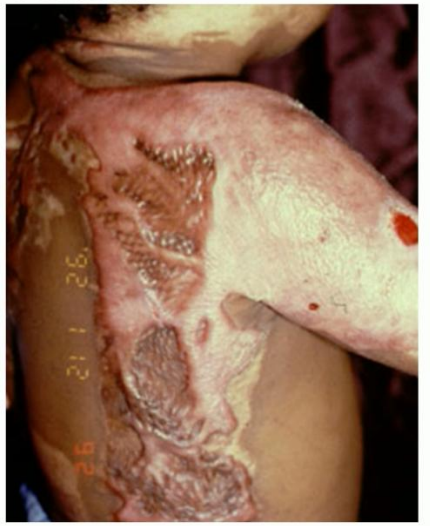
2 same age 3 y.o. children with same hot water burn injury

Treated with laser x 1
3 months post injury

12 months later no treatment







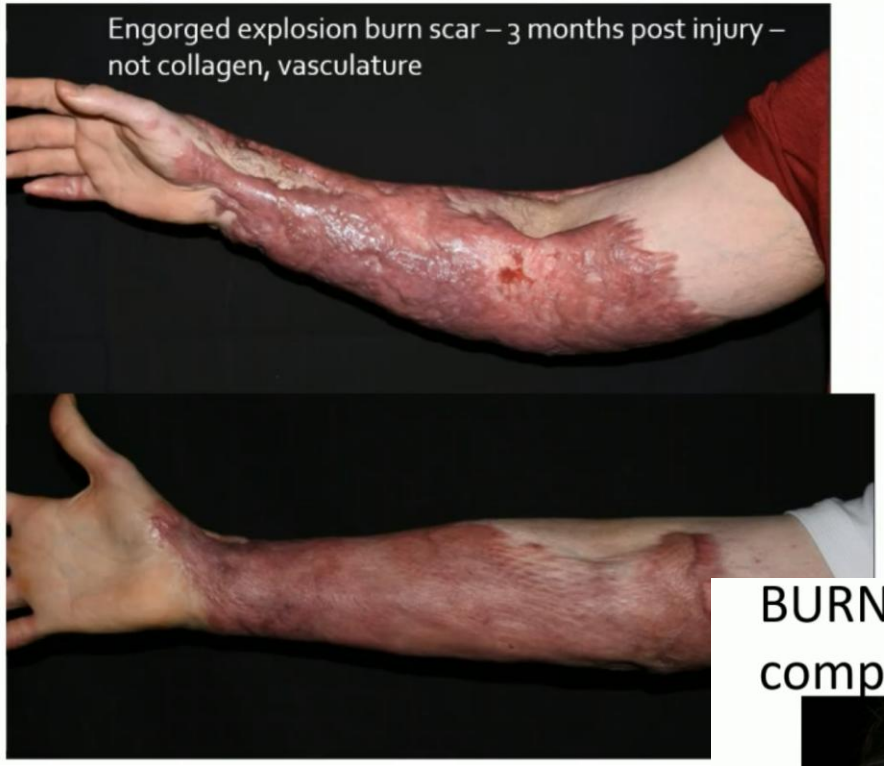
Early laser intervention to reduce scar formation – a systematic review

K E Karmisholt[1], A Haerskjold[1], T Karlsmark[1], J Waibel[2], U Paasch[3], M Haedersdal[1] J Eur Acad Dermatol Venereol. 2018 Jul;32(7):1099-1110. doi: 10.1111/jdv.14856

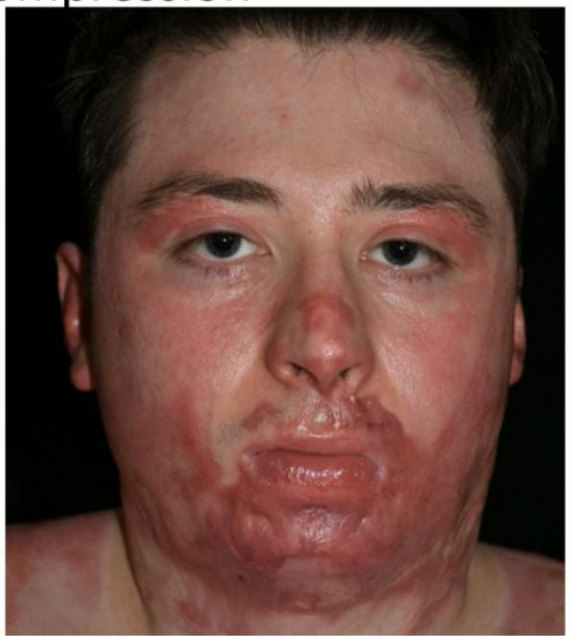
Randomized, Controlled Early Intervention of Dynamic Mode Fractional Ablative CO_2 Laser on Acute Burn Injuries for Prevention of Pathological Scarring

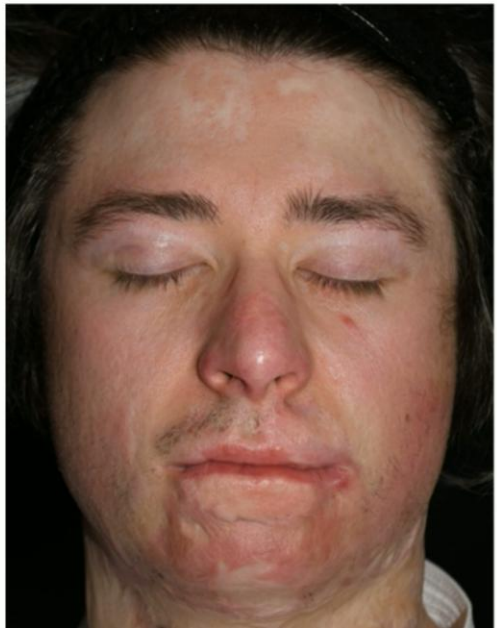
Jill S. Waibel MD, Chloe Gianatasio MS, Ashley Rudnick MS Lasers Surg Med . 2020 Feb;52(2):117-124. doi: 10.1002/lsm.23170

Vascular congestion: Erbium YAG helps dysfunctional angiogenesis – "bleed out scar" profound impact on early scar outcome: ONE TREATMENT



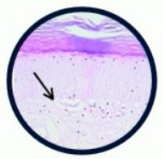
BURN SCARS – 2 treatment session PDL, AFL, TAC, compression



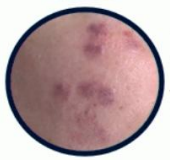


When to treat PWCM?

Studies from US and China show **benefits of early intervention** with the clinical rationale that:



Thinner epidermis and **less melanin** allows for **better targeting of vessels**

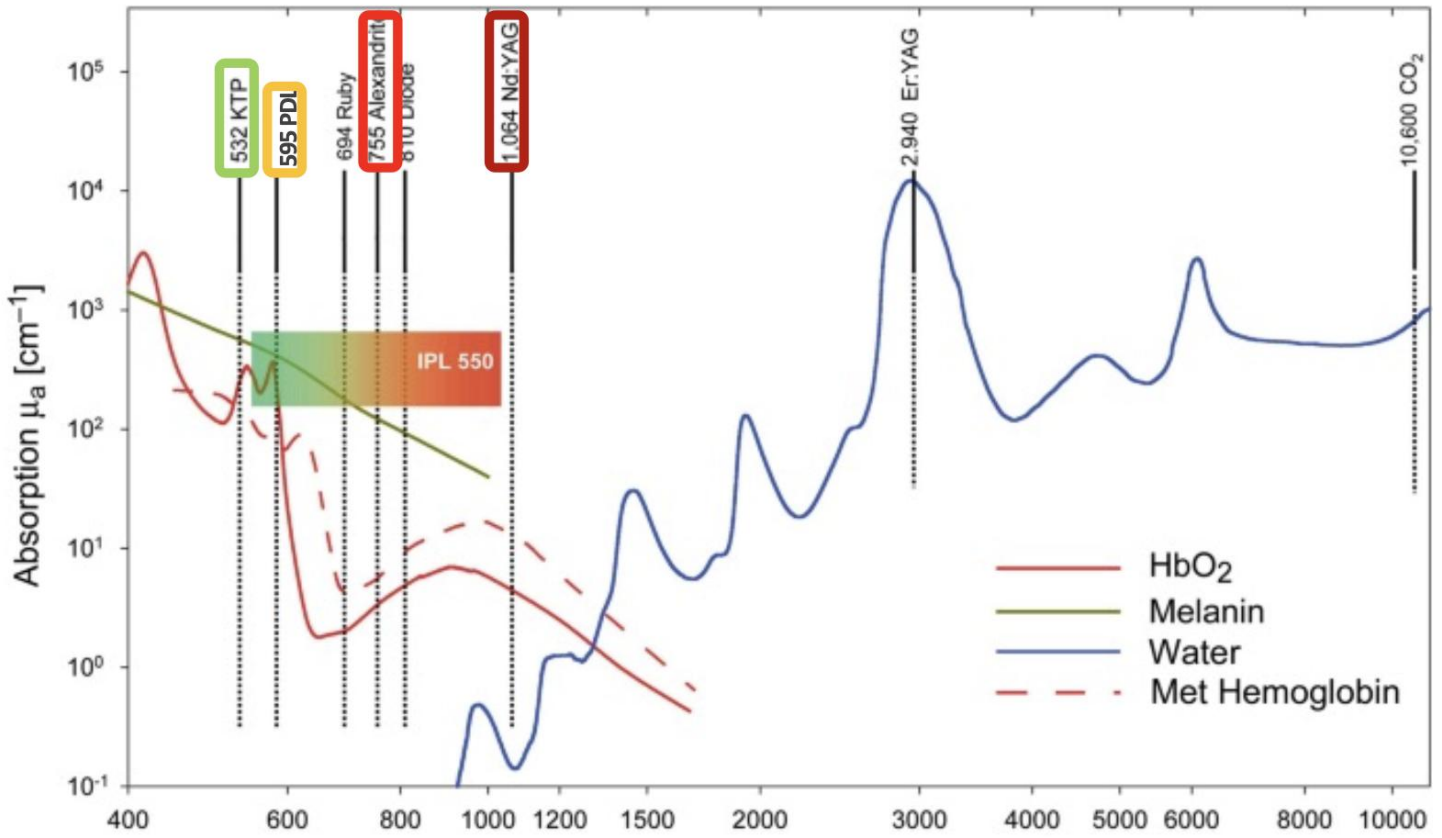


Purpura is less common in the first 3 months **allowing for short treatment intervals** with lower risk of PIH

Chances of >75% clearance are highest if treated in the first year of life

Stamatas GN, Nikolovski J, Mack MC, Kollias N. Infant skin physiology and development during the first years of life: a review of recent findings based on in vivo studies. Int J Cosmet Sci. 2011 Feb;33(1):17-24. doi: 10.1111/j.1468-2494.2010.00611.x. Epub 2010 Aug 30. PMID: 20807257.
Bajaj S, Tao J, Hashemi DA, Geronemus RG. Weekly Pulsed Dye Laser Treatments for Port-Wine Birthmarks in Infants. JAMA Dermatol. 2024 Jun 1;160(6):606-611. doi: 10.1001/jamadermatol.2024.0293. PMID: 38630490; PMCID: PMC11024797.
Xiu B, Xu Z, Xu Z, Zhang B, Wei L, Ma L. Pulsed Dye Laser for Port Wine Stains in 974 Children: A 20-Year Study in China. Clin Cosmet Investig Dermatol. 2024 Nov 14;17:2573-2581. doi: 10.2147/CCID.S487229. PMID: 39559184; PMCID: PMC11572471.
Minkis K, Geronemus RG, Hale EK. Port wine stain progression: a potential consequence of delayed and inadequate treatment? Lasers Surg Med. 2009 Aug;41(6):423-6. doi: 10.1002/lsm.20788. PMID: 19588535; PMCID:

Laser therapy options



KTP
532nm

PDL
595nm

Alexandrite
755nm

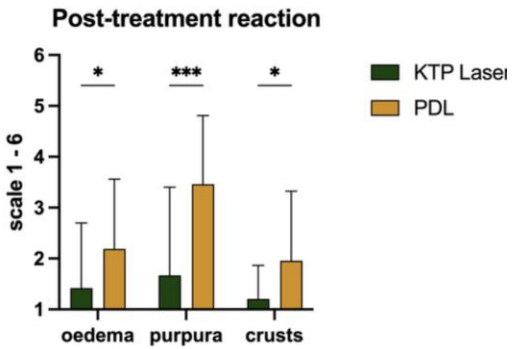
Nd:YAG
1064nm

Bäumler, W., Landthaler, M., Paasch, U. (2018). Laser, hochenergetische Blitzlampen und photodynamische Therapie. In: Plewig, G., Ruzicka, T., Kaufmann, R., Hertl, M. (eds) Braun-Falco's Dermatologie, Venerologie und Allergologie. Springer Reference Medizin. Springer, Berlin, Heidelberg. https://doi.org/10.1007/978-3-662-49544-5_119

Is PDL still the gold standard?

Data from **Hamburg**:

- 35 patients with PWCM and 45 with rosacea
- **Erythema** in both treatment arms **decreased significantly** ($p < 0.01$).
  Pain was lower with the KTP (2.5/10) than with the PDL (4.1/10) ($p<00.5$).
  Purpura was **only seen in the PDL** group.



Efficacy: Tie
Patient comfort (pain, purpura): KTP

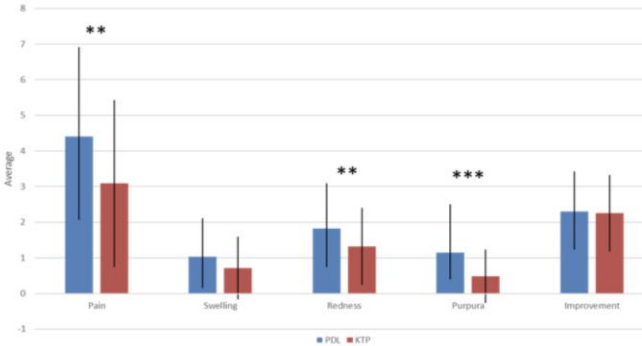
Nguyen L, Seeber N, Kautz G, Hartjen A, Schneider SW, Herberger K. 532-nm potassium titanyl-phosphate laser versus 595-nm pulsed dye laser for port-wine birthmarks: A prospective, randomized, split-side study. J Eur Acad Dermatol Venereol. 2024 Jun;38(6):1140-1146. doi: 10.1111/jdv.19750. Epub 2023 Dec 21. PMID: 38794945.

Nguyen L, Dierckxsens C, Kerscher M, Hartjen A, Schneider SW, Herberger K. Rosacea treatment with 532 nm KTP versus 595 nm pulsed dye laser-A prospective, controlled study. J Cosmet Dermatol. 2024 Jul;23(7):2443-2449. doi: 10.1111/jocd.16300. Epub 2024 Apr 10. PMID: 38600654.

Is PDL still the gold standard?

Data from **UC Irvine**:

- 25 patients with vascular lesions (PWCM, erythematous scars, rosacea, venous lake, hereditary hemorrhagic telangiectasia)
- **Higher pain scores, redness, and purpura following PDL** treatment ($p<0.05$).
  In PWCM, Physician-blinded evaluations
  25% preference for KTP, 14% PDL



Efficacy: Tie
Patient comfort (pain, purpura): KTP

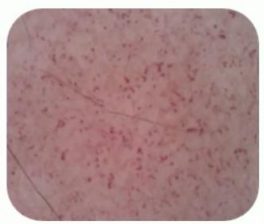
Olamide Sonuga, BS1; Feben Messele, MD1; Karishma S. Shah, BS1; Cameron Zachary, MD1; Sungat Grewal, MD1 **Kristen M. Kelly**, MD1 ; Comparative Assessment of 532/1064-nm KTP/Nd: YAG and 595-nm Pulsed Dye Laser for Cutaneous Vascular Lesions: A Prospective Split-Site Study (under review)

Imaging for treatment prediction in PWCM

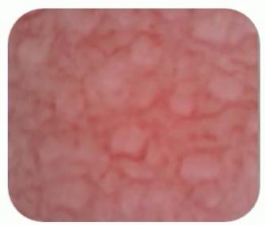
OCT data from UC Irvine and University of Wisconsin showed that **larger vessel diameters** were found in treatment-naïve malformations and those deemed **clinically laser resistant**

Data from China shows that treatment **outcomes for PDL** also **varies by dermoscopic vascular pattern**

Good responders



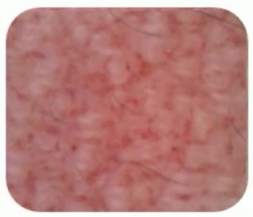
Dotted
~90%



Linear
~80%

Poor responders

Reticular
~40%



Mixed
~40%

White veil
~30%

Le T, Evans EL, Hetzel S, Messele F, Elsanadi R, Miller A, Sonuga O, Ng A, Moon J, Tran J, Bruhn E, Block W, Eliceiri KW, Drolet B, Kelly KM, Arkin L. Optical coherence tomography patterns as predictors of molecular diagnosis and treatment response in capillary malformations (port wine birthmarks). Submitted, under review.
Ma L, Guo S, Sun Y, Liu Y, Wang F, Kong S, Hou X, Jiang G. Comparison of Efficacy Between Hemoporfin Photodynamic Therapy and Pulsed Dye Laser in the Treatment of Port-Wine Stains With Different Vascular Patterns: A Retrospective Study. Photodermatol Photoimmunol Photomed. 2025 Jul;41(4):e70031. doi: 10.1111/phpp.70031. PMID: 40566756.

highlights
Denver, Colorado

AAD ANNUAL MEETING 2026

27 — 31
Marzo

Fotodermatosis

Una iniciativa de:

AEDV 1909 ACADEMIA ESPAÑOLA DE DERMATOLOGÍA Y VENEREOLOGÍA

FUNDACIÓN AEDV PIEL SANA ACADEMIA ESPAÑOLA DE DERMATOLOGÍA Y VENEREOLOGÍA

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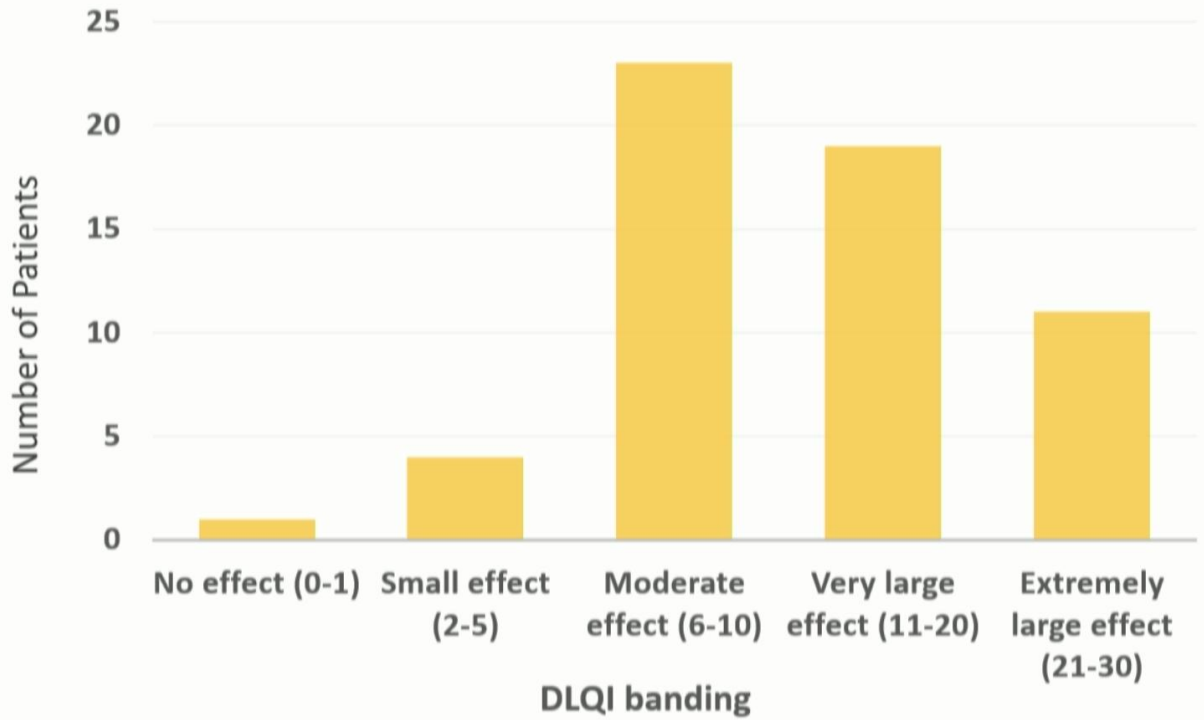
Con el patrocinio de:

ucb

Impact on Quality of Life



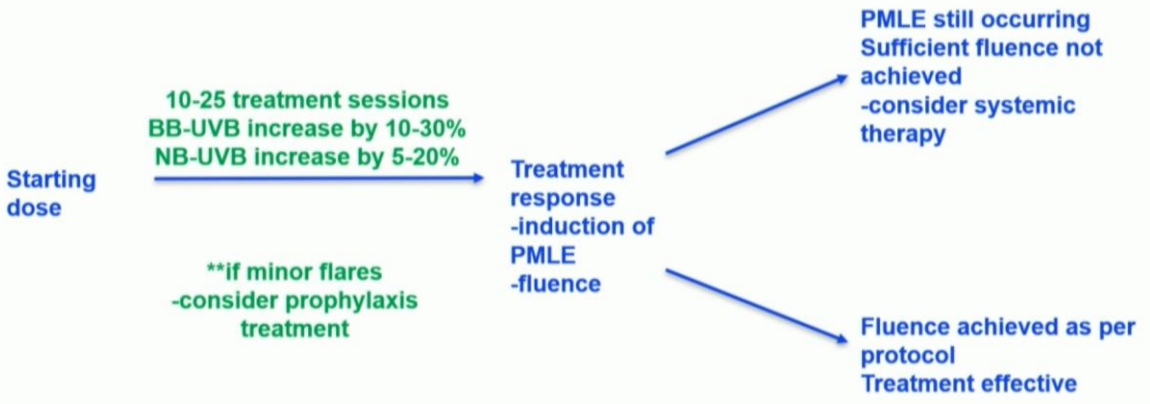
Median DLQI for past year: 11
(very large effect)

[*DLQI questionnaires were completed by 58 patients]

UBC Dermatology

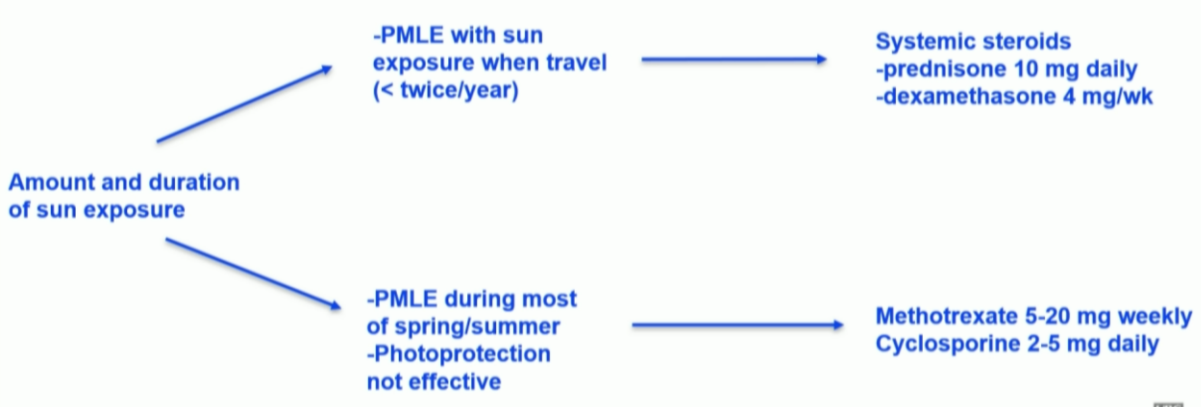
Ahad et. al. Photodermatol Photoimmunol Photomed 2020 ; Finlay AY et al. Clin Exp Dermatol 1994; Jong CT et al. BJD. 2008

PMLE photohardening protocol



UBC Dermatology

Systemic immunosuppressive therapy for PMLE



UBC Dermatology

Research Article | NO ACCESS | Published Online: 21 June 2024

Tofacitinib: A Treatment Option for Recalcitrant Polymorphic Light Eruption and Its Mechanistic Rationale

Authors: Kabir Sardana, Sinu Rose Mathachan, and Ananta Khurana | AUTHORS INFO & AFFILIATIONS

Abstract: Background: Polymorphous light eruption is largely characterized by a delayed-type (type IV) hypersensitivity reaction to 1 or more undefined endogenous ultraviolet-induced skin antigens.

Objectives: To evaluate the efficacy of tofacitinib in refractory cases of polymorphous light eruption.

Methods: Seven patients who had failed multiple systemic treatments or relapsed within 2 weeks of existing systemic agents with concomitant photoprotection were offered tofacitinib after written consent.

Results: Initiation of tofacitinib led to a marked reduction of itching (mean ± SD 3.1 ± 1.12 days) followed by clinical resolution (mean ± SD 2.6 ± 1.1 weeks). The duration of therapy ranged from 1 to 3 months (mean ± SD 2 ± 0.63 months), and 4 of 7 patients had a recurrence in 5.5 weeks and were again initiated on tofacitinib with a prompt response.

Conclusion: Tofacitinib inhibits Janus kinase (JAK)1 and JAK3 thus it can abrogate the effects of the predominant cytokine milieu of polymorphic light eruption (PMLE) and thus reduce the expression of aberrant inflammatory T lymphocyte expression in PMLE.

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Drug class	% of cases	Drug	BB-UVA	SSR	UVB	UVA	VL
Antimalarials	12.3%	Quinine					
Thiazide Diuretics	10.6%	Bendroflumethiazide					
		Indapamide					
		Hydrochlorothiazide					
Antifungals	9.8%	Voriconazole					
		Terbinafine					
PPIs	9.8%	Omeprazole					
		Lansoprazole					
		Rabeprazole					
ACE-inhibitors	8.2%	Lisinopril					
		Enalapril					
		Ramipril					
Statins	5.7%	Simvastatin					
		Atorvastatin					
Ca^{2+} channel antagonists	4.9%	Amlodipine					
		Diltiazem					
SSRIs	4.9%	Fluoxetine					
		Sertraline					

Drug class	% of cases	Drug	BB-UVA	SSR	UVB	UVA	VL
Anti-inflammatory	4%	Naproxen					
		Ibuprofen					
		Mefenamic acid					
		Sulfasalazine					
Anti-epileptics	3.3%	Carbamazepine					
		Lamotrigine					
		Phenobarbital					
B-Blockers	3.3%	Bisoprolol					
		Atenolol					
Tricyclic antidepressants	3.3%	Amitriptyline					
		Nortriptyline					
Antibiotics	2.5%	Tetracyclines					
		Ciprofloxacin					
		Dapsone					
Immunosuppressants	2.5%	Azathioprine					
Angiotensin-II receptor antagonists	1.64%	Candesartan / Irbesartan					
Loop Diuretics	1.64%	Bumetanide/ Furosemide					

Common reported culprits

- Thiazide diuretics
- Antibiotics- e.g. tetracyclines, flouroquinolones
- Quinine
- NSAIDs
- Amiodarone
- Antifungals: e.g. voriconazole
- Ca^{2+} channel antagonists
- Antipsychotics: e.g. chlorpromazine
- Vemurafenib

SSR: solar simulated radiation

UBC Dermatology

l. Drug safety. 2019; Kim et. al. JAAD. 2018

#AEDVenAAD2026

Chemical/Drug Induced Photosensitivity

Gutierrez D, Gaulding JV, Motta Beltran AF, Lim HW, Pritchett EN. Photodermatoses in skin of colour. J Eur Acad Dermatol Venereol. 2018 Nov;32(11):1879-1886. doi: 10.1111/jdv.15115. Epub 2018 Jul 15. PMID: 29888465.

- Diltiazem photoinduced eruption
  - Primarily reported in SOC
    - Black>Asian/Hispanics
    - Pigmentation starts 1.5-150 months after initiation
  - Reticulated hyperpigmented macules on face
    - Blue-grey to brown

HENRY FORD HEALTH

Photoprotection in SOC

Tsai J, Chien AL. Photoprotection for Skin of Color. Am J Clin Dermatol. 2022 Mar;23(2):195-205. doi: 10.1007/s40257-021-00670-z. Epub 2022 Jan 19. PMID: 35044638; PMCID: PMC8766623.

- Photoprotection is a cornerstone for management of photodermatoses
  - SOC populations tend to utilize sun protective clothing or seeking shade more than sunscreen
  - Consistently low reported use of sunscreen in SOC populations compared to white populations

Ideal Sunscreen

Garett G, Grayson CG, Rambhatla PV, Mohammad TF. A comparison of tinted sunscreen availability in an urban versus suburban setting in the Detroit area. Arch Dermatol Res. 2024.

- Action Spectrum for most photodermatoses in SOC is in the UV range
  - Higher SPF sunscreen
- Visible Light can induce pigmentation in SOC
  - Role in management of post-inflammatory hyperpigmentation
  - Tinted sunscreen/antioxidant containing sunscreen
- May want to avoid organic filters in CAD

Afamelanotide: Primary End Point

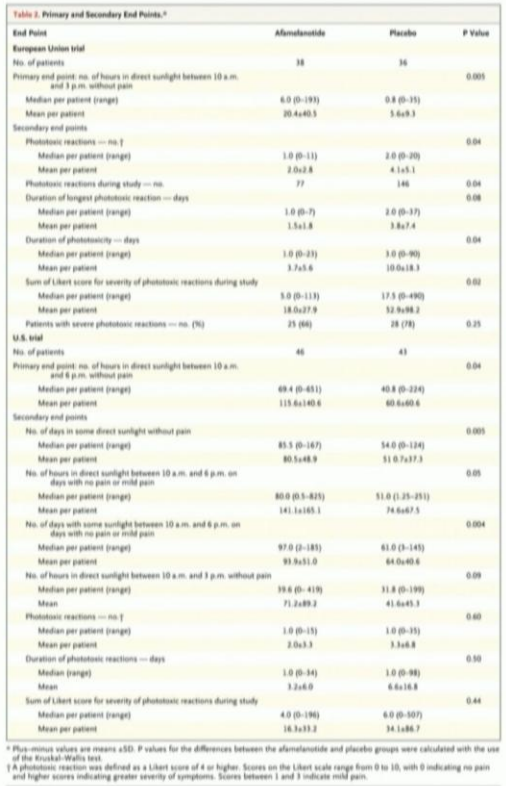

Table 2. Primary and Secondary End Points.*

End Point	Afamelanotide	Placebo	P Value
European Union trial			
No. of patients	38	36	
Primary end point: no. of hours in direct sunlight between 10 a.m. and 3 p.m. without pain			0.005
Median per patient (range)	6.0 (0–193)	0.8 (0–35)	
Mean per patient	20.4±40.5	5.6±9.3	
Secondary end points			
Phototoxic reactions — no.†			0.04
Median per patient (range)	1.0 (0–11)	2.0 (0–20)	
Mean per patient	2.0±2.8	4.1±5.1	
Phototoxic reactions during study — no.	77	146	0.04
Duration of longest phototoxic reaction — days			0.08
Median per patient (range)	1.0 (0–7)	2.0 (0–17)	
Mean per patient	1.5±1.8	3.8±7.4	
Duration of phototoxicity — days			0.04
Median per patient (range)	1.0 (0–23)	3.0 (0–90)	
Mean per patient	3.7±5.6	10.0±18.3	
Sum of Likert score for severity of phototoxic reactions during study			0.02
Median per patient (range)	5.0 (0–113)	17.5 (0–490)	
Mean per patient	18.0±27.9	52.9±98.2	
Patients with severe phototoxic reactions — no. (%)	25 (66)	28 (78)	0.25
U.S. trial			
No. of patients	46	43	
Primary end point: no. of hours in direct sunlight between 10 a.m. and 6 p.m. without pain			0.04
Median per patient (range)	69.4 (0–651)	40.8 (0–224)	
Mean per patient	115.6±140.6	60.6±60.6	
Secondary end points			
No. of days in some direct sunlight without pain			0.005
Median per patient (range)	85.5 (0–167)	54.0 (0–124)	
Mean per patient	80.5±48.9	51.0.7±37.3	
No. of hours in direct sunlight between 10 a.m. and 6 p.m. on days with no pain or mild pain			0.05
Median per patient (range)	80.0 (0.5–825)	51.0 (1.25–251)	
Mean per patient	141.1±165.1	74.6±67.5	
No. of days with some sunlight between 10 a.m. and 6 p.m. on days with no pain or mild pain			0.004
Median per patient (range)	97.0 (2–185)	61.0 (3–145)	
Mean per patient	93.9±51.0	64.0±40.6	
No. of hours in direct sunlight between 10 a.m. and 3 p.m. without pain			0.09
Median per patient (range)	39.6 (0–419)	31.8 (0–199)	
Mean	71.2±89.2	41.6±45.3	
Phototoxic reactions — no.†			0.60
Median per patient (range)	1.0 (0–15)	1.0 (0–35)	
Mean per patient	2.0±3.3	3.3±6.8	
Duration of phototoxic reactions — days			0.50
Median (range)	1.0 (0–34)	1.0 (0–98)	
Mean	3.2±6.0	6.6±16.8	
Sum of Likert score for severity of phototoxic reactions during study			0.44
Median per patient (range)	4.0 (0–196)	6.0 (0–507)	
Mean per patient	16.3±33.2	34.1±86.7	

* Plus–minus values are means ±SD. P values for the differences between the afamelanotide and placebo groups were calculated with the use of the Kruskal–Wallis test.
† A phototoxic reaction was defined as a Likert score of 4 or higher. Scores on the Likert scale range from 0 to 10, with 0 indicating no pain and higher scores indicating greater severity of symptoms. Scores between 1 and 3 indicate mild pain.

USA study:
Those who received afamelanotide reported a mean of 38 minutes outside without pain versus 20 minutes amongst those who received placebo (that is those receiving afamelanotide reported 18 more minutes [95% CI 3 minutes to 33 minutes; P = 0.016])

EU study:
Those who received afamelanotide
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Lang

AAD ANNUAL MEETING 2026 highlights

Current Research in EPP

- S/C implant (Afamelanotide/Scenesse®) – alpha MSH agonist
- Oral Dersimelagon – selective MC1R agonist
- Bitopertin – reduces glycine availability & PpIX levels
- PORT 77 – blocks PpIX transport

highlights
Denver, Colorado

AAD ANNUAL MEETING 2026

27 — 31
Marzo

Melasma y Skin of colour (SOC)

Una iniciativa de:

AEDV 1909 ACADEMIA ESPAÑOLA DE DERMATOLOGÍA Y VENEREOLOGÍA

FUNDACIÓN AEDV PIEL SANA ACADEMIA ESPAÑOLA DE DERMATOLOGÍA Y VENEREOLOGÍA

#AEDVenAAD2026

Con el patrocinio de:

ucb

F021 - Where Do We Stand? The Pathogenesis and Treatment of Melasma

- Director: Pearl E. Grimes, MD, FAAD
- Speakers: Maria Ivonne Arellano-Mendoza, MD, IFAAD; Seemal R. Desai, MD, FAAD; Nada Elbuluk, MD, FAAD; Helio A. Miot, MD, PhD, IFAAD; E. Victor Ross Jr., MD, FAAD; Seaver Soon, MD, FAAD

U028 - Pigmentary Potpourri: How to Evaluate, Diagnose, and Treat Pigmentary Conditions

- Director: Neelam Vashi, MD, FAAD
- Co-Director: Nada Elbuluk, MD, FAAD

U060 - Melasma in Skin of Colour: 2026 Update

- Director: Mukta Bhardwaj Sachdev, MD, IFAAD
- Speaker: Hassan I. Galadari, MD, FAAD

S045 - Skin of Color

- Director: Nada Elbuluk, MD, FAAD
- Speakers: Victoria Holloway Barbosa, MD, FAAD; Cheryl M. Burgess, MD, FAAD; Raj J. Chovatiya, MD, PhD, FAAD; Shari Lipner, MD, PhD, FAAD; Tiffany Mayo, MD, FAAD; Thierry Passeron, MD, PhD; Rebecca Vasquez, MD, FAAD

Mon, Mar 30
9:00 AM
11:00 AM

F072 Acne/Skin of Color

Mile High 4D

2 CME | Forum | NEW

Sat, Mar 28
1:00 PM
3:00 PM

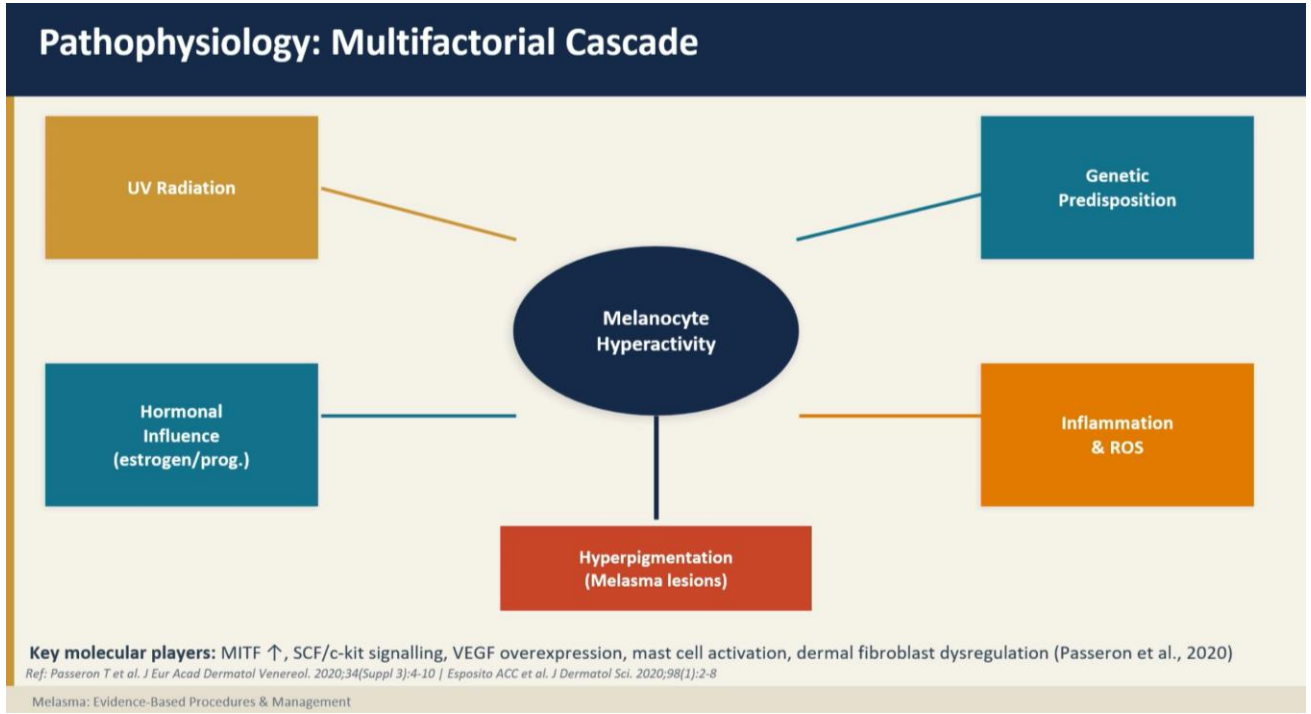
F035 Inflammatory Skin Diseases in Skin of Color

Bluebird 2B

2 CME | Forum | NEW

Muchas sesiones con su propio apartado
Con “piel de color”

Fisiopatología del melasma



- **Melasma como Fenotipo de Fotoenvejecimiento**: Se propone clasificar el melasma como un trastorno crónico de fotoenvejecimiento caracterizado por una **inflamación subclínica** persistente y una **disfunción de la barrera cutánea**.
- **Componente Vascular**: Estudios recientes documentan un incremento significativo de eritema y telangiectasias en las lesiones, lo que sugiere que la angiogénesis juega un papel crítico en la patogenia. Esta inflamación del estroma amplifica las señales hacia el melanocito.

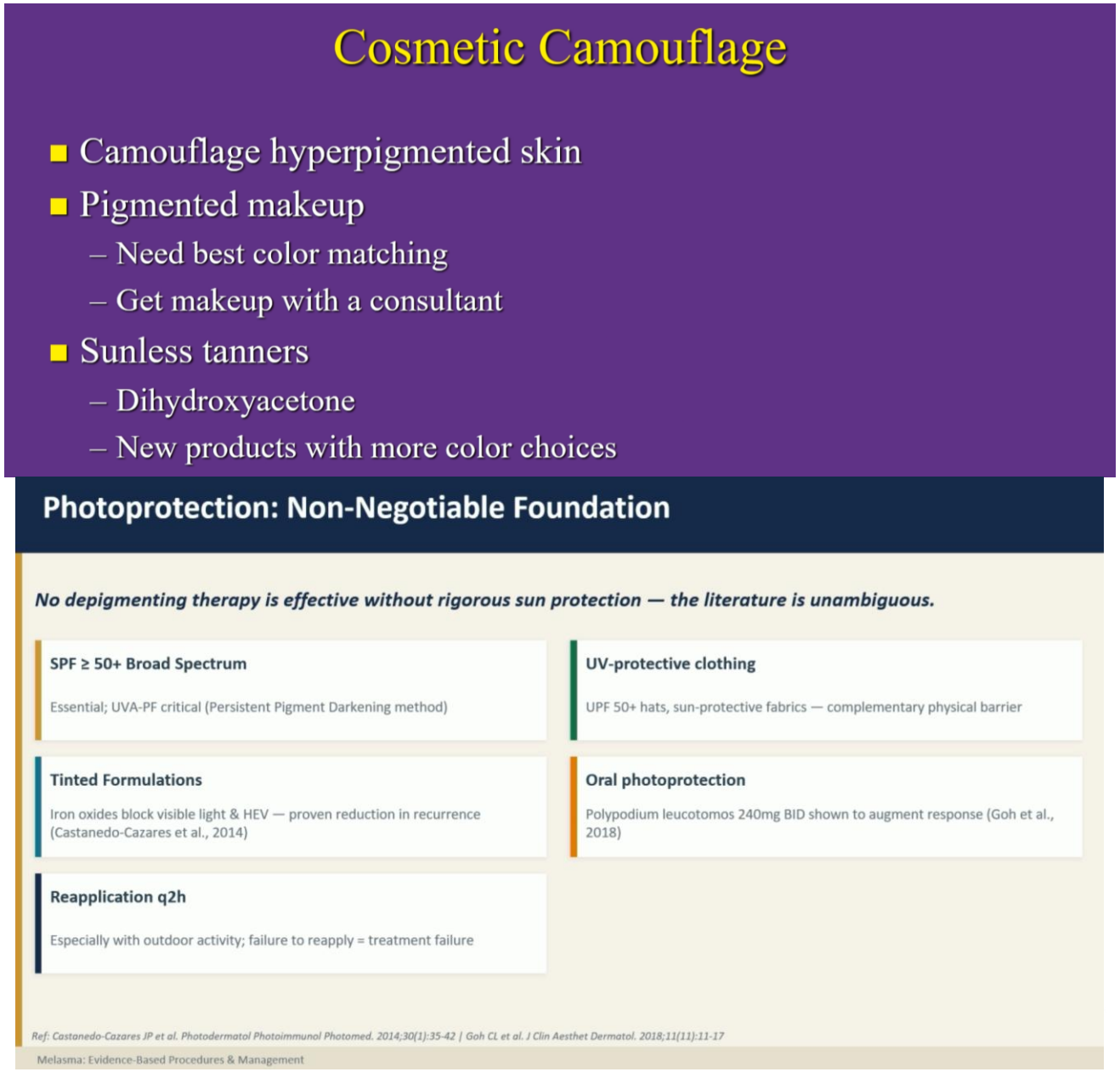
Fotoprotección en melasma

•**Opsina-3 y Luz Azul:** la **luz azul (visible)** induce melanogénesis a través del receptor **Opsina-3**.

•**Impacto en Skin of Color (SoC):** En fototipos altos (Fitzpatrick IV-VI), la luz visible es **más relevante que la radiación UV** en las recaídas del melasma.

•**Fotoprotección : óxido de hierro**

Mejor si color

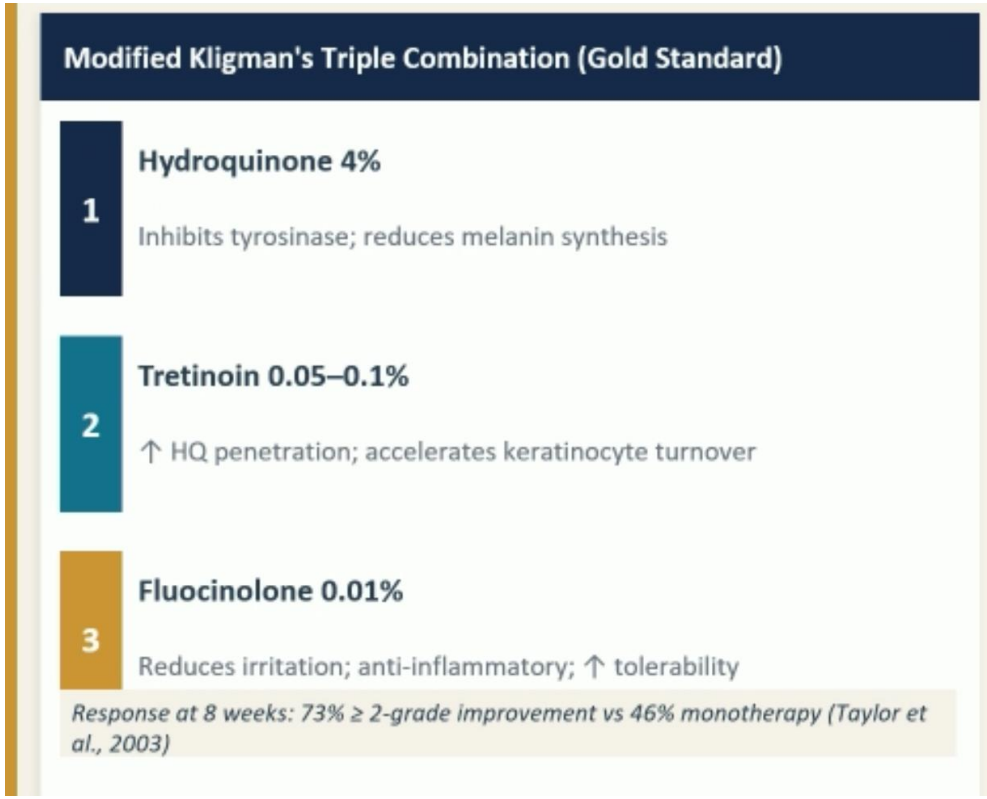


Combination Protocols: Evidence Summary

Protocol	Study	N	Duration	MASI Reduction	Grade
Triple combo cream (HQ+RA+FA)	Taylor et al. 2003	150	8 wks	73% ≥2 grade improvement	A
TXA oral + Triple combo	Sharma et al. 2017	60	12 wks	44% vs 36% (P=0.04)	A
QS-Nd:YAG + topical HQ	Vachiramon et al. 2011	40	12 wks	−51% MASI	A
Picosecond 1064 + topical	Tanghetti et al. 2019	55	12 wks	−45% vs −28% (P=0.003)	A
MN + TXA intradermal	Ismael & Shokeir 2020	45	3 months	−47% vs −22% monotherapy	B+
GA peel series + triple cream	Garg et al. 2008	50	16 wks	−68% MASI	A
Oral TXA + topical cysteamine	Karrabi et al. 2021	62	16 wks	Non-inferior to HQ combo	B+
PRP/PRF + MN	Nguyen & Sadick 2018	30	3 months	−40% vs −22% (MN alone)	B

Evidence Grade: A = RCT | B+ = Prospective comparative | B = Case series or open-label

Manejo Terapéutico



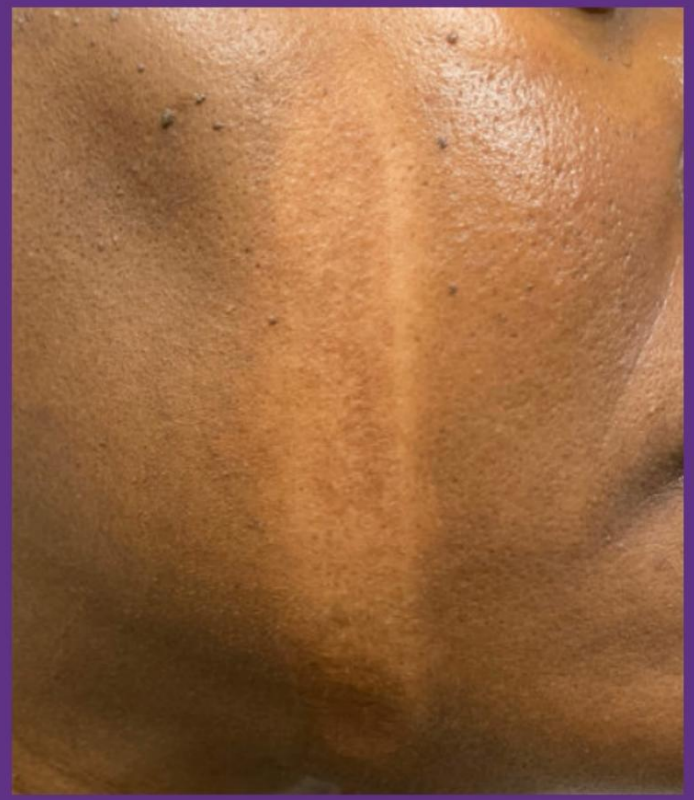
Compounds

- Studies vary on efficacy – range from 40-78%
- Tretinoin 0.1% + HQ 5% + dexamethasone 0.1% (Kligman)
- Tretinoin 0.05% + HQ 4% + fluocinolone acetonide 0.01%
- Tretinoin 0.1% + HQ 6-10% + ascorbic acid 0.05% + hydrocortisone 2.5% cream + propylene glycol 4% (Brody)
- Tretinoin 0.025% cream + HQ 4% cream + triamcinolone 0.1% cream
- Tretinoin 0.1% + HQ 5% + hydrocortisone 1% (Kang)
- Tretinoin 0.05-0.1% + HQ 2% (Pathak)
- N-acetylcysteine 4.7% + HQ 2% + TAC 0.1% (Westerhof)
- Online Platforms: Offer many HQ Compounds ranging from 2-12%

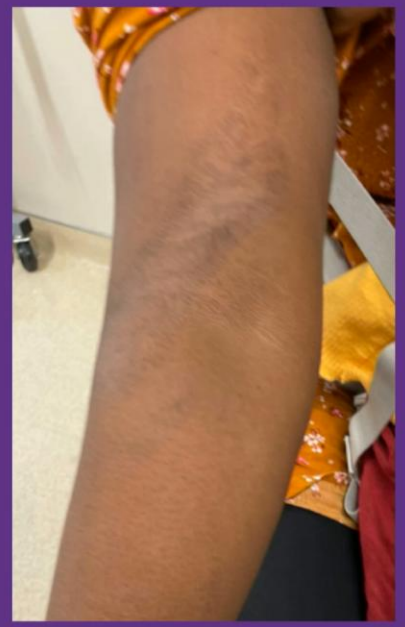
RAM hidroquinona

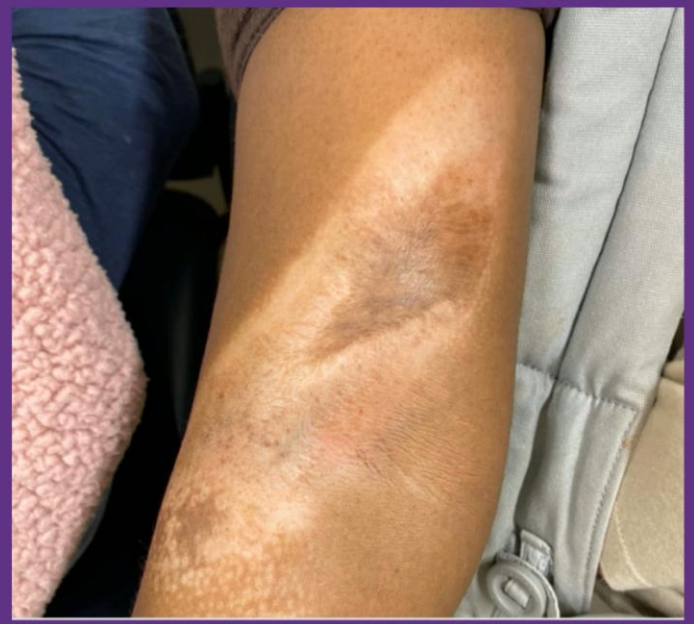
HQ Adverse Reactions

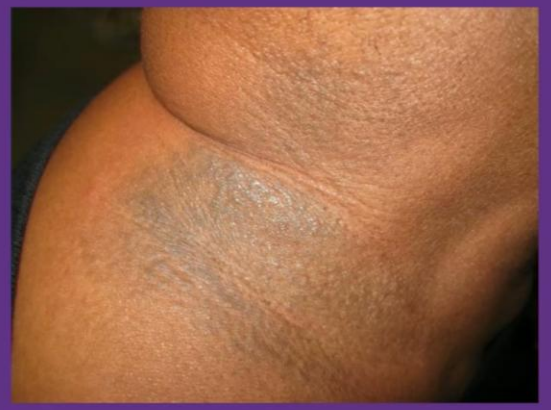
- Halo hypopigmentation
- Irritant and allergic contact dermatitis
- Nail discoloration
- Conjunctival melanosis
- Exogenous ochronosis

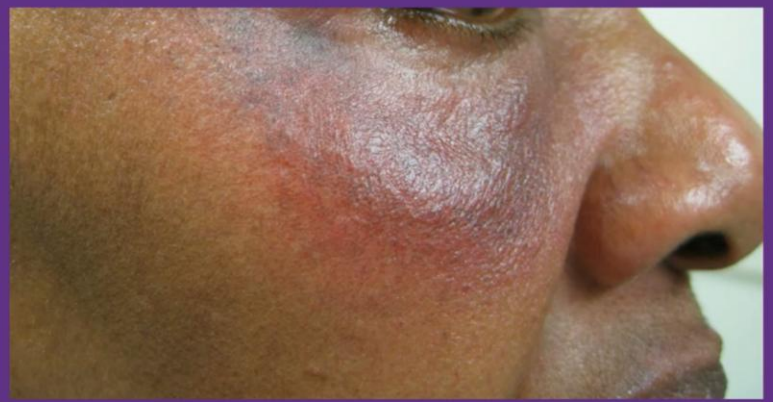


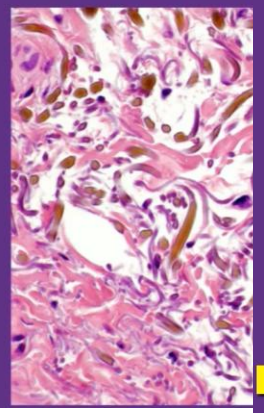
HQ Hypopigmentation











AAD ANNUAL MEETING 2026 highlights

Open Access Brief Report

Exogenous Ochronosis: Characterizing a Rare Disorder in Skin of Color

by Michelle Lazar, Henriette De La Garza and Neelam A. Vashi *

Department of Dermatology, Boston University School of Medicine, 609 Albany St, J502, Boston, MA 02118, USA

* Author to whom correspondence should be addressed.

J. Clin. Med. **2023**, *12*(13), 4341; **https://doi.org/10.3390/jcm12134341**

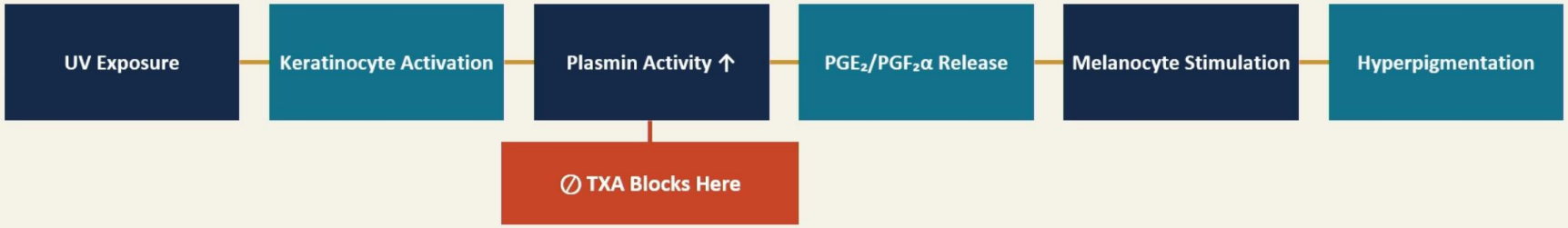
- 10-year retrospective analysis
- 25 patients; 55yo [33-69yo]
- 64% were aware they were using a bleaching agent
- Average of 9.2 years of use of lightening cream
  - Shortest duration was 1.5 years
- Cheeks (68%), forehead (24%), and temples (20%)
- 24% had used a 2% HQ

Topical Agent	Mechanism of Action	Notes
Hydroquinone	Inhibits tyrosinase; selective melanocyte toxicity; inhibits DNA/RNA synthesis	Gold standard; 2–4% (or higher compounded); risk of irritation and exogenous ochronosis with prolonged use; use in cycles
Azelaic acid	Inhibits tyrosinase; anti-inflammatory; reduces ROS and abnormal melanocyte activity	Useful for PIH and melasma; also treats acne/rosacea; safe in skin of color
Arbutin	Competitive tyrosinase inhibitor (hydroquinone derivative)	Less potent than hydroquinone; better tolerability; often in combination products
Kojic acid	Chelates copper at tyrosinase active site	Can be irritating; stability issues; commonly combined with other agents
Mequinol	Tyrosinase substrate analog leading to melanocyte toxicity	Often combined with tretinoin; less commonly used now but effective
Thiamidol (isobutylamido thiazolyl resorcinol)	Highly selective human tyrosinase inhibitor	Strong clinical data; effective for melasma and PIH; good tolerability
Cysteamine	Inhibits tyrosinase and peroxidase; scavenges dopaquinone; reduces eumelanin synthesis	Comparable efficacy to hydroquinone in some studies; odor limits adherence; short-contact therapy often used
Tranexamic acid (topical)	Inhibits plasmin → decreases melanocyte stimulation and vascular/inflammatory signaling	Increasing evidence in melasma; also used orally and intradermally
Decapeptide-12	Competitive inhibition of tyrosinase (peptide-based)	Limited but promising data; well tolerated; cosmeceutical use
Methimazole (topical)	Inhibits peroxidase and tyrosinase pathways in melanogenesis	Off-label; useful in refractory melasma; minimal systemic absorption when topical
Tretinoin	Increases epidermal turnover; disperses melanin; enhances penetration of other agents	Core adjunct; improves outcomes in combination regimens; irritation common initially
Adapalene / Tazarotene	Normalize keratinization; increase turnover; indirect melanin dispersion	Alternatives to tretinoin; tazarotene more potent but more irritating
Niacinamide	Inhibits melanosome transfer; anti-inflammatory	Well tolerated; supports barrier; useful adjunct
N-acetyl glucosamine	Inhibits glycosylation of pro-tyrosinase	Synergistic with niacinamide; mild but safe
Soybean extract	Inhibits PAR-2 → reduces melanosome transfer	Mild brightening; maintenance therapy; cosmeceutical use
Ascorbic acid (Vitamin C)	Antioxidant; reduces oxidized melanin; inhibits tyrosinase	Requires stable formulation; enhances photoprotection; adjunctive
Ferulic acid	Antioxidant; stabilizes vitamin C; reduces oxidative melanogenesis	Typically used in combination with vitamin C/E
Aloesin (Aloe vera)	Competitive tyrosinase inhibitor	Mild effect; adjunctive
Licorice extract (glabridin, liquiritin)	Inhibits tyrosinase; anti-inflammatory; disperses melanin	Good for PIH; low irritation
Ellagic acid	Inhibits tyrosinase and melanocyte proliferation	Found in plant extracts; modest efficacy
Resveratrol	Antioxidant; inhibits tyrosinase and melanocyte signaling	Limited clinical data; adjunctive
4-n-butylresorcinol	Potent tyrosinase inhibitor (similar class to thiamidol)	Used in some cosmeceuticals; good efficacy data
Lignin peroxidase	Enzymatic degradation of existing melanin	Targets existing pigment; limited clinical evidence
Alpha hydroxy acids (glycolic, lactic)	Increase epidermal turnover; enhance pigment dispersion	Useful adjunct; also used in chemical peels
Salicylic acid	Keratolytic; promotes exfoliation and pigment dispersion	Helpful in acne-associated PIH

- Topical: 2–5% typical (up to ~10% in some formulations)
- Oral (off-label, melasma) 250 mg twice daily commonly used in studies; divided dosing
  - Typical course 2–6 months
  - Requires careful screening for thromboembolic risk
- Intradermal / Mesotherapy4–10 mg/mL injected into affected areas
  - Series every 1–2 weeks
  - Adjunct for refractory cases

Oral Tranexamic Acid (TXA): Mechanism & Clinical Evidence

TXA inhibits the plasmin–prostaglandin pathway, reducing UV-induced melanocyte stimulation. Structurally similar to tyrosine — competitive inhibitor of tyrosinase.



Dosing

250 mg BID or 500mg BID
Duration: 3–6 months
Injectable: 4mg/mL intradermal (microinjections)

Efficacy

Wu et al. (2012): 76.5% excellent response vs 32.4% placebo
Kern et al.: 44% MASI reduction at 12 weeks
Superior to triple combo in one RCT (Sharma et al., 2017)

Safety Profile

Most common: GI upset (take with food)
No significant DVT risk at standard doses
Contraindicated: DVT history, renal impairment
Pregnancy: Class B (limited data)

Monitoring

Baseline CBC, renal/hepatic function
Annual labs in long-term users
Ask about VTE risk factors before prescribing

Ref: Wu S et al. J Eur Acad Dermatol Venereol. 2012;26(5):658-61 | Sharma R et al. J Am Acad Dermatol. 2017;76(5):970-72 | Bala HR et al. J Am Acad Dermatol. 2021

Chemical Peels for Melasma: Classification & Evidence

KEY EVIDENCE: GA 30–70% series (6 sessions) achieves >50% MASI reduction with low side-effect profile. Salicylic acid 20–30% (4 sessions, q2wk) produced significant lightening with minimal PIH (Sarkar et al., 2002). Mandelic acid preferred for darker skin types due to larger molecular size → slower, more uniform penetration.

- NO EN FOTOTIPOS OSCUROS

Superficial

Agents:
GA 20–70%
SA 20–30%
Mandelic 10–40%
Lactic 50–70%
Target: Epidermis

Strong RCT evidence; safe in FST III–V

Medium

Agents:
TCA 15–35%
Jessner's + TCA
GA 70% +
TCA 35%

Target: Papillary dermis

Effective but higher PIH risk in darker skin

Deep

Agents:
TCA > 40%
Phenol (Baker-Gordon)

Target: Reticular dermis

NOT recommended in FST III+; severe PIH risk

Ref: Sarkar R et al. Dermatol Surg. 2002;28(3):228-32 | Garg VK et al. J Drugs Dermatol. 2008;7(8):754-8 | Bari AU et al. J Pak Assoc Dermatol. 2005;15:209-15

Lasers/Lights in Ethnic Skin

- Lasers - unpredictable
  - Sublethal laser damage to labile melanocytes can increase melanin production and lead to PIH
  - Worsening with ablative
  - Mixed data on Q-switched lasers and IPL
  - Transient response with fractional lasers

QS-Nd:YAG 1064nm: Protocol & Evidence

Low-Fluence QS-Nd:YAG (Toning) Protocol

Fluence	1.4–2.0 J/cm² (sub-purpuric)
Spot size	6–8 mm handpiece
Pulse count	3–5 passes per session
End-point	Transient erythema; no purpura
Frequency	Weekly or bi-weekly
Sessions	6–10 treatments in series
Pre-treatment	Topical anesthesia optional; sun avoidance 2 weeks

Key Evidence

- **Mun et al. (2010):** Significant MASI reduction after 10 sessions of low-fluence QS-Nd:YAG toning (mean −47%)
- **Vachiramon et al. (2011):** QS-Nd:YAG + topical cream superior to cream alone (P<0.001)
- **Systematic review (Kim et al., 2017):** Mixed evidence on durability; relapse in 60% without maintenance

⚠ Complications & Limitations

- **Paradoxical hyperpigmentation (PIH):** Particularly with higher fluences in FST IV–VI
- **Confetti-like leukoderma:** Risk with excessive session frequency; irreversible depigmentation
- **Rebound:** Rapid recurrence 2–3 months post-treatment without topical maintenance
- **Solar keratosis/malignancy:** Biopsy suspicious lesions before treating as melasma

Ref: Mun JY et al. Ann Dermatol. 2010;22(2):143-9 | Vachiramon V et al. J Am Acad Dermatol. 2011;65(1):76-82 | Kim NH et al. Laser Med Sci. 2017;32(4):799-808

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CONCLUSIONES

1. Importancia de las características diferenciales de la piel de color

2.Nuevos horizontes para el láser y otras terapias de luz

3. Fotoprotección personalizada y adecuación de la exposición solar en los pacientes teniendo en cuenta beneficios y riesgos

Denver, Colorado

27 — 31 Marzo

highlights

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