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## www.cyspera.com

The first line non-HQ option in hyperpigmentation

Sole **non-hydroquinone** topical regimen clinically proven

- as effective as Kligman's formula,
- $\checkmark$  with same onset of action

Option for **long-term maintenance therapy** for melasma, thanks to an **absence of long-term side effects** and a **high patient's satisfaction.** 





## CYSTEAMINE ISOBIONIC-AMIDE: Potentiating Effects on Pigment Correction



#### PIGMENT CORRECTION



**Dr Behrooz Kasraee, MD** Dermatologist Chief Scientific Officer, Scientis SA

Courtesy of Dr Chau Yee Ng (Taiwan)



Liu RT, Tsai T, Lai Y, Ng, CY. Efficacy and safety of cysteamine-isobionicamide complex in postinflammatory hyperpigmentation: A 16-week, randomized, double-blinded, vehicle-controlled trial. Dermatologica Sinica.2023;41(4)222-230.

# About the Speaker

Dr. Behrooz Kasraee is a renowned physician dermatologist and researcher whose passion for skin pigmentation concerns has led him to become one of the leaders in this field of study. Not only is he the only person to successfully find a way to stabilize cysteamine, but he also runs one of the most successful vitiligo clinics in the world. He identified a series of new skin depigmenting agents such as methimazole, ebselen and isoniazide. Dr. Kasraee has set forth the concept of H2O2-mediated melanin synthesis and its role as a defence mechanism against oxidative stress. He is at the origin of novel in vitro methods for melanosomal transfer measurement. Behrooz, MD, was instrumental in developing the new pigment corrector formulated with cysteamine. Dr. Kasraee is founder & chairman of Scientis & Swiss Vitiligo Center.

### 2<sup>nd</sup> Generation Cysteamine in the treatment of hyperpigmentation



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#### 2022

**IBA** 

NH<sub>2</sub>

40+

INTERNATIONAL

CLINICAL STUDIES

Isobionic-Amide: Discovered by Scientis through an analysis of the chemical isomer configurations of the pyridine family in comparison to the biphenol family.

## 2024

cvsper

The first pigment correction solution using the IBA Cysteamine Complex.



WHY THE NEED: Powerful and well-tolerated



Cysteamine Isobionic-Amide Depigmenting Complex provides **superior benefits in pigmentation:** 

- "Pigmentation disorders are psychologically devastating" <sup>(1)</sup>.
   Patients seek non-visible (no downtime) treatments which are safe for long-term use
- ✓ Clinicians seek effective non-mutagenic, non-carcinogenic agents which do not carry risk of chemical vitiligo
- The Safety of hydroquinone is an area of significant debate despite status as the gold standard to reduce hyperpigmentation<sup>2</sup>
  - ✓ Reputation as a \*potentially mutagenic and carcinogenic compound known to induce ochronosis<sup>3</sup>
  - HQ combinations can lead to irritation and phototoxic reactions
- ✓ Non-hydroquinone topical agents such as tranexamic acid, kojic acid, arbutin, azelaic acid, retinoids, hydroxy acids have shown lower efficacy. All are generics.

Note: size represent notoriety of Active ingredient

(1) Pearl Grimes, MD FAAD

(2) Westerhof et al. Hydroquinone and its analogues in dermatology - a potential health risk. J Cosm. Derm. 2005:4(2):55-9.

(3) Miles and Wilkerson, The dark side of hydroquinone for skin lightening: 3-fold increased risk of skin cancer. J Investigative Derm. 2022:5.936.

DOI:10.1016/j.jid.2022.05.936





## What is Cysteamine?



## More than 50 years ago, cysteamine was shown to be significantly more effective than hydroquinone in vivo





**In 1966**, Prof. Chavin discovered the physiologic activity of cysteamine in skin pigmentation, while studying black goldfish models.

**In 1968**, Professor Fitzpatrick's studies showed that Cysteamine is significantly stronger than hydroquinone in vivo, but its intense odor prohibited its use in topical products.

**In 2010**, Dr Behrooz Kasraee developed a new technology that significantly increases cysteamine stability and reduces its intense odor

**In 2013**, Dr Christophe Hsu presented at the AAD Annual Meeting the significant efficacy and safety of Cysteamine 5% on a first cohort of 30 melasma patients<sup>(1)</sup>





Chavin W. et al, 1966, Die Naturwissenschaften 53(16):413-414 E Frenk et al. Arch Dermatol 97 (4), 465-477. 4 1968 SS Bleehen et al. J Invest Dermatol 50 (2), 103-117. 2 1968

### Cysteamine is a physiological molecule

#### Cysteamine is **the simplest aminothiol** physiologically produced in humans from the essential amino-acid **cysteine**



Concentrated in human milk, cysteamine acts as an intrinsic antioxidant and is known for its protective role



CYSTEAMIN

## Cysteamine acts on more levels of melanogenesis than any other topical agent



Mechanism of Action	Compound	
Tyrosinase inhibitor (6,32)	Cysteamine, Hydroquinone, Kojic Acid, Arbutin, Azelaic Acid, Ascorbic Acid, Ellagic acid, Glycolic Acid, EGF, 4-n-butylresorcinol	
Dopa oxidase inhibitor (6,32)	Cysteamine, Mulberry extract	
Peroxidase substrates / inhibitors (6,32)	Cysteamine, Hydroquinone	
Increasing intracellular glutathione (6,32)	Cysteamine	
Removal of melanin precursors (6,33)	Cysteamine, 2-Mercaptonicotinoyl glycine	
Melanosomal transfer inhibition (32)	Isobionic-Amide, Niacinamide, Tretinoin, Dolic acid	
Block plasmin pathway (32)	Tranexamic acid	
Anti-hormonal (32)	Flutamide	
Increase keratinocyte turnover (32)	Tretinoin, Glycolic Acid	
Cytotoxic (32)	Hydroquinone, Azelaic Acid	

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### Cysteamine – A naturally-occuring antioxidant,

with multiple effects on the melanogenesis pathways

#### **Enzymatic Pathway:**

- Inhibition of tyrosine hydroxylation [1]
- Inhibition of DOPA oxidation [1]
- Inhibition of indole polymerisation through peroxidase inhibition [1]

#### **Iron Chelation Pathway:**

• Inhibition of Fenton-type reactions through iron and copper ion quenching [2,3]

#### **Glutathione cascade impeding effect :**

 Increase of intra-cellular glutathione bypassing Eu-melanin pathway by activating Pheomelanin pathway [3,4]

#### **Other effects :**

- Dopaguinone guenching (removing dopaguinone from the pathway) [5]
- Reduction of dark melanin in stratum corneum into a lighter form through antioxidant effect [6,7]
- · Removal of superficial epidermal layers containing melanin and acceleration of epidermal turnover through keratolytic effect [7-10]

- [5] Alfieri, M. Let al. (2022). Disentangling the puzzling regiochemistry of thiol addition to o-10 quinenstiania 90905, 87(7), 4580-4589.
- [6] Bottu G. (1989). The effect of quenchers on the chemiluminescence of luminol and luciaenin. J
- [2] Sakurai H, et al. (1971). Studies on the sulfur-containing chelating agents [...]. Chem Pharm Bull, [7] Gillbro JM et al. (2011). The melanogenesis and mechanisms of skin-lightening agents-existing
- [3] de Matos D G, et al. (1995). Effect of cysteamine on glutathione level [...]. Mol Reprod Dev, 42(4), [8] Manuszak MA, et al.. (1996). single-fiber tensile kinetic data. J. Soc. Cosmet Chem, 47, 213-227. [10] Stratigos AJ, et al.. (2004). Optimal management of recalcitrant disorders of





## What is Isobionic-Amide?



### > Isobionic-Amide : a new Anti-Inflammatory agent with anti-acne effects





- ✓ In 2011, Dr. Behrooz Kasraee discovered Isobionic-Amide while researching cysteamine's interactions with isomers from the pyridine family.
- Works synergistically with Cysteamine.
- ✓ **Inflammation**: Soothes chronic, low-grade inflammation. and reduces flare-ups in rosacea, eczema, or acne
- ✓ Photoaging: UV-induced inflammation accelerates collagen loss and uneven pigmentation.
- ✓ Dyschromia (melasma, lentigines, PIH): Often driven by chronic inflammation and oxidative stress.



## **Depigmenting activity** of Isobionic-Amide



#### Depigmenting activity of Isobionic-Amide<sup>(1)</sup>

- Discovered through analysis of pyridine isomer configuration
- Established in 2011 to act as Pigment control by:
  - $\circ~$  Inhibition of melanosomal transfer



○ Inhibition of tyrosinase



■ Activity 100% ■ Isobionic-amide 100µM

#### Multiplying 6x the tyrosinase inhibition activity<sup>(2)</sup>

• Isobionic-Amide multiplies by 6x the tyrosinase inhibition effects when applied in combination with Cysteamine





### > Anti-inflammatory effects of Cyspera® "Boost" Isobionic-Amide





## Cyspera Boost™ accelerates the skin's natural recovery process and reduces skin erythema:

- ✓ By 40% in just 30 minutes with one single application
- ✓ By 85% in 3 days with just 3 applications
- ✓ Transepidermal water loss (indicating skin barrier repair) was also improved by 31%



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### IBA protects the skin from UV-induced erythema

5 hours post-UVB irradiation the erythema index was measured using SkinColorCatch®









### Textural activity and auxiliary benefits of Isobionic-Amide

Reversed signs of photoaging measured in 95% of subjects







## Anti-inflammatory effects of Isobionic-Amide



Baseline





Week 16



## Reversed signs of Photoaging of Isobionic-Amide





Baseline



Week 8







## Potentiating / Intensifying effects

### OF THE CYSTEAMINE - ISOBIONIC-AMIDE DEPIGMENTING COMPLEX

## **Cyspera Duo** – Potentiating effects of the Cysteamine IBA Complex



Anti-inflammatory effects

 Intracellular NAD+ increase
 PARP-1 inhibition
 Nociceptive response inhibition

Melanosomal Activity inhibition
 o Tyrosinase inhibition

o DOPAquinone Quenching

o Peroxidase inhibition

 Fenton-type reactions inhibition (iron and copper ion quenching)

o Intra-cellular glutathione Increase

Melanosomal Transfer inhibition

Epidermal Cell Turnover stimulus

• Antioxidation effects



Cyspera Intensive Duo





### IBA multiplies the tyrosinase inhibition over Cysteamine alone

After the discovery of the IBA, in vitro studies demonstrated the great potential of the complex, which could be explored further in in vivo testing. The effects were multiplied, not additive\*\*





p<0.05 ) at pH 6.8, measured via spectrophotometry at 482 nm.

(\*) Kasraee B, Dirlewanger L, De Thé G. J Am Acad Dermatol. 2024;91(3):AB245.



### Gold Standard Efficacy with Cysteamine Isobionic-Amide Depigmenting Complex

A double blind, randomized and placebo-controlled study to investigate the **safety and efficacy** of Cysteamine Isobionic-Amide Depigmenting Complex compared to modified Kligman's formula for the treatment of melasma.

- Cyspera® Intensive System= Isobionic-Amide Cysteamine depigmenting complex (N=30)
- ✓ Placebo (N=20)
- ✓ Tri-luma® Kligman's Formula = 4% Hydroquinone, 0.05% tretinoin and 0.01% Fluocinolone Acetonide (N=30)





### Cysteamine IBA complex as effective & fast onset of action as Triluma®



#### mMASI reduction from Baseline

Skin colorimetry

Placebo (N=20)

Tri-luma® Kligman's Formula

✓ Improved melasma appearance as effectively as Triluma®

Cyspera® Intensive System

 $\checkmark$  Melasma severity is significantly reduced as early as week 4

Sachdev M, et al. 2024. J Drugs Dermatology : versus baseline, p<0.001; n-s: non significative between groups © Scientis, 2025



### Higher Patient Satisfaction with Cysteamine Isobionic-Amide vs. Triluma®



#### **Patients' Satisfaction**



#### Improvement of Quality of life

Placebo (N=20)

#### Kligman's Formula

= 4% Hydroquinone, 0.05% tretinoin and 0.01% Fluocinolone Acetonide (N=30)

Cyspera® Intensive System
 = Isobionic-Amide Cysteamine
 Pigment Correction Complex (N=30)

Sachdev M, et al. 2024. J Drugs Dermatology \*\*\* : versus baseline, p<0.001; n-s: non significative between groups



## **Clinical cases**

Cysteamine Isobionic-Amide Depigmenting Complex





UpToDate Melasma Management Algorithm

**Cyspera®** Cysteamine is key in the algorithm to manage stubborn dyschromia.

> 😣 Wolters Kluwer bloDate

It is a first line non-HO option that can also be used routinely for longterm maintenance.<sup>(1)</sup>

– Pearl Grimes, MD – Valery Callender, MD

#### Equal efficacy, faster onset of action vs Kligman's

formula

Springer

Research

**JCAD** 

Double-blind, randomized clinical study on 80 epidermal melasma patients<sup>(1)</sup>

#### As effective with less complication than TXA mesotherapy

Comparison of Cyspera vs. Archives of Dermatological Tranexamic acid mesotherapy in a randomized clinical study of 54 melasma patients (7)

#### Pairs well with in-office procedure

Case study of the successful combination of the IBA-Cysteamine Complex with picosecond laser for a recalcitrant melasma patient<sup>(4)</sup>



#### Significant efficacy on melasma

Double-blind, randomized clinical study on 80 epidermal melasma patients<sup>(1)</sup>

#### Significant efficacy on PIH

**Dermatologica**Sinica

Double-blind, randomized vehiclecontrolled clinical study on 40 patients with PIH induced by acne or by laser<sup>(2)</sup>



#### Significant efficacy on photoaging dyschromia Case series involving 7 patients with photoaged skin

- (1) Sachdev M, Grimes PE, Callender V, et al. Cysteamine Isobionic-Amide Complex Versus Kligman's Formula for the Treatment of Melasma: Equal Efficacy and Rapid Onset of Action. J Drugs Dermatol JDD. 2024;23(2):9-16
- Liu R, Tsai TF, Lai YJ, Ng 黃昭瑜 CY. Efficacy and safety of cysteamine-isobionicamide complex in postinflammatory hyperpigmentation: A 16-week, randomized, double-blinded, vehicle-controlled trial. Dermatol Sin. 2023;41:222-230
- (3) Clark-Loeser L. Sfriso, Riccardo, Dirlewanger, Laure, Kasraee B. A case series with cysteamine-isobionicamide Complex: Clues for Skin rejuvenating activity. J Cosmet Dermatol. 2025;24(1):e16743.
- (4) Hartman C, Crawford M, Frey C, Bosley R, Sfriso R, Dirlewanger L, Kasraee B. Successful Treatment of recalcitrant melasma by Picolaser and Isobionicamide – Cysteamine combination: a Case Report. J Clin Aesthet Dermatol. 2025;18(2):30–32.

## Cysteamine safety and efficacy in combination with retinoids (original formulation in combination therapy with tarazotene .1% cream (Tazorac®)



Baseline



Week 12





### Cysteamine Isobionic-Amide Depigmenting Complex, effects on melasma



Baseline



Week 8

Source: Christine Adams, NP-BC, Owner of Skinsplendid, LLC



## Cysteamine Isobionic-Amide Depigmenting Complex, mixed hyperpigmentation



Baseline



Week 6

Courtesy from Dr. Utako Kimura



## Cysteamine Isobionic-Amide Depigmenting Complex, effects on PIH





#### Baseline

Week 16

Courtesy of Dr Chau Yee Ng (Taiwan)

Liu RT, Tsai T, Lai Y, Ng, CY. Efficacy and safety of cysteamine-isobionicamide complex in postinflammatory hyperpigmentation: A 16-week, randomized, doubleblinded, vehicle-controlled trial. *Dermatologica Sinica*.2023;41(4)222-230.



Fast results on PIH week 4, Cysteamine Isobionic-Amide Depigmenting Complex, conjunction with retinoids



Baseline





Week 4







Baseline





Week 4



## Safety and Efficacy of Cysteamine for periorbital hyperpigmentation, original formulation



Baseline

Week 12



<sup>33</sup> © Scientis, 2025 Dr. Corey Hartman Patient prior usage of cojic/ arbutin/ HQ 8% BID 4 weeks, Switched to Cyspera original, QD 20 weeks



### Safety and Efficacy of Cysteamine on thin skinned areas, original formulation



Baseline

Day 19



## Cysteamine effects on solar lentigo, original formulation



Baseline



Week 12

Dr. Saki, HSR 2024, Successful treatment of solar lentigines by topical application of stabilized cysteamine: A vehicle-controlled, double-blind randomized study



## Cysteamine safety and efficacy for pigmented scars, original formulation



Baseline



Week 4



# About the Speaker

Professor Firas Al-Niaimi is a highly experienced and skilled consultant dermatologist, Mohs and laser expert with nearly 20 years' experience and an international standing trained in some of the UK's top hospitals and fellowship-trained in dermatologic surgery and lasers at St. Thomas' hospital in London where he continued to work there as an honorary consultant for a number of years before moving to fulltime private practice.

His passion for education, research and science has led him to publish over 220 publications in Dermatology and lasers including his own published book and 10 book chapters making him one of the most prolific and well-published consultant dermatologists in the UK. In addition to this he has delivered more than 500 scientific presentations in 73 countries around the world (a third of the globe!) including keynote lectures at prestigious international conferences. His contribution to British dermatology was such that in 2019 he was awarded the "Global excellence award" for the title of consultant Dermatologist of the year in London and won this award for the second time in 2022. His success culminated in 2021 when he became a professor at Aalborg university in Denmark

## States of the states of the

- Pretreating patients with Cysteamine prior to energy based devices
- What are the current standards?
- Protocols



## Why Pre-treat with Cyspera- avoiding poor outcomes

Pretreating the skin before undergoing laser treatment is a common practice that can enhance the effectiveness of the laser procedure and reduce the risk of side effects. Pretreating the skin with agents that do not cause photosensitivity is essential for enhancing safety, comfort, and effectiveness of laser treatments while minimizing the risk of adverse effects.

- 1. \*\*Prevent Post-Inflammatory Hyperpigmentation (PIH)\*\*
- \*\*Minimize Hyperpigmentation Risk\*\*: Agents that do not cause photosensitivity help reduce the risk of PIH, a common side effect after laser treatments, especially in individuals with darker skin tones. Using non-photosensitizing agents allows for safer treatment without increasing the risk of discoloration.

#### 2. \*\*Increase Safety\*\*

- \*\*Avoiding Photosensitivity\*\*: Using agents that do not cause photosensitivity ensures that the skin will not become overly sensitive to light in the days leading up to the laser treatment. This is crucial because increased sensitivity can lead to adverse reactions during and after laser exposure.

- 3. \*\*Prepare the Skin for Laser Absorption\*\*
- \*\*Improved Absorption\*\*: Certain agents can help prepare the skin for better absorption of the laser energy, which may improve the efficacy of the treatment.
- 4. \*\*Minimize Risks of Complications\*\*

- \*\*Complication Prevention\*\*: By choosing a safe, non-photosensitizing agent for pretreatment, practitioners can minimize the risk of complications such as burns, blisters, or prolonged erythema (redness), which can occur if the skin is overly sensitive to light.



## Why Post-treat with Cyspera- patient satisfaction

After laser treatment, the behavior of pigmentation can vary depending on several factors, including the type of laser used, the condition being treated, the individual's skin type, and their response to the treatment. Here are some key points regarding the potential return of pigmentation after laser treatment:

1. \*\*Healing Process\*\*

- \*\*Healing and Recovery\*\*: As the skin heals, there can be a period where pigmentation may appear to return or fluctuate. This is often due to the natural healing process, where the skin regenerates and may initially show some discoloration.

2. \*\*Risk of Post-Inflammatory Hyperpigmentation (PIH)\*\*

- \*\*PIH Development\*\*: For some individuals, particularly those with darker skin types, there is a risk of developing post-inflammatory hyperpigmentation after laser treatments. This condition can manifest as dark patches that appear after the inflammation from the treatment subsides.

3. \*\*Long-Term Results\*\*

- \*\*Potential for Pigment Return\*\*: While many people experience long-lasting results with reduced pigmentation, some may find that pigmentation can return over time due to factors such as sun exposure, hormonal changes, or the natural aging process. Preventative measures, such as using sunscreen and other skincare products, are essential to maintain results.

4. \*\*Individual Variability\*\*

- \*\*Unique Responses\*\*: Each individual's skin may respond differently to laser treatment. Factors such as skin type, underlying conditions, and lifestyle can influence how the skin heals and how long the results last.

5. \*\*Maintenance Treatments\*\*

- \*\*Ongoing Care\*\*: To maintain the results of laser treatments, ongoing skincare and potential maintenance treatments may be necessary. Regular use of sunscreen and Cyspera can help prolong the effects.



Novel Combination of a 650-Microsecond Neodymium-doped Yttrium Aluminium Garnet 1,064-nm Laser and Cysteamine Cream for the treatment of Melasma: A Case Study

#### 1 of 3



ABSTRACT

Novel Combination of a 650-Microsecond Neodymium-doped Yttrium Aluminium Garnet 1,064-nm Laser and Cysteamine Cream for the Treatment of Melasma: A Case Study

by BEVERLY JOHNSON, MD; SAMANTHA MARRONE, MD; and AMIT OM, MD Drs. Johnson, Marrone, and Om are with Florida State University in Tallahassee, Florida

J Clin Aesthet Dermatol. 2020;13(3):28-30

steroids and chronic use of these agents

causes the epidermis to thin, and thus, be

and increased irritation that can lead to

postinflammatory hyperpigmentation.

Additionally, there exists the possibility of

areas. Hydroquinone has been known, in

rare cases, to cause exogenous ochronosis.

after the cessation of bleaching agents.1

Cysteamine cream, a more recently

developed depigmenting agent, has

Rebound hyperpigmentation can also occur

when using hydroquinone, due to inconsistent application techniques by patients to affected

developing islands of hypopigmentation

Melasma is a common pigmentation disorder with few satisfactory treatment options. The hyperpigmentation has both an epidermal and dermal component. To date, combination therapies have been observed to yield greater improvements in melasma compared to monotherapies. Cysteamine has been tested and shown to improve epidermal melasma. In this case series, we examined the efficacy of nightly applications of cysteamine cream, washed off after 15 minutes, with monthly in-office laser treatment sessions using a 650-microsecond neodymium-doped vttrium aluminium garnet 1.064-nm laser. The patients all reported satisfaction with the results of this combination therapy. None of the patients experienced irritation with the product nor did they experience discomfort/downtime with the laser sessions. Evaluation of the patients two months after the treatment indicated persisting effects. Our small case series suggests high levels of satisfaction can be achieved using this combined tonical and laser annmach. KEY WORDS: Melasma, cysteamine cream, Nd:YAG laser

Melasma is a hyperpigmentation disorder demonstrated efficacy in both the laboratory that pathogenetically involves hereditary and clinical practice for the treatment of factors and exposure to sunlight and heat. melasma.3-6 Additionally, lasers have shown Hydroguinone-based bleaching agents promise in the treatment of melasma, most are currently considered the gold standard notably including the Nd-YAG laser <sup>7</sup> In treatment for melasma. The field of research particular, the 650-microsecond 1064-nm laser into better treatment options for melasma from Aerolase has been used to treat melasma is expanding, and the impetus for this in all skin types without complications. The safety and efficacy of this laser in the treatment might partially be attributed to the concern among some patients that hydroquinone is of melasma have been demonstrated in previous studies.8 carcinogenic.<sup>2</sup> Additionally, hydroguinone can be very irritating, and is often compounded This small case series describes the cases with fluocinolone acetonide 0.01% and of three patients treated for melasma with tretinoin 0.05%. The addition of topical the combination of cysteamine cream and the

650-microsecond 1064nm Nd:YAG laser. more susceptible to worsening of melasma

METHODS Three patients representing a range of light. medium, and dark complexions, aged 67 years (Figure 1A), 61 years (Figure 1C), and 41 years (Figure 1E), presented to our dermatology clinic for treatment of melasma after having been treated unsuccessfully with hydroquinone in the past. The patients had not used any topical treatments in the year prior to presenting to our clinic and none of the patients had undergone laser treatments before. Signed informed consent and photoconsent was obtained from each patient. Photographs were taken in the clinic prior to starting treatment

FUNDING: No funding was provided for this study. DISCLOSURES: The authors have no conflicts of interest relevant to the content of this article CORRESPONDENCE: Beverly A. Johnson, MD; Email: bjohnson@datfl.com

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Case study published in JCAD 2020 Credit : Dr B. JOHNSON, Dr S. MARRONE and Dr A. OM

• N=3

- When used 2-4 weeks before laser session, reduce the pigmentation production rhythm and reduce the risk of Post-Inflammatory Hyperpigmentation.
- Can be used until the day of the laser, and after the laser for the duration of any erythema (until redness disappears)



Successful Treatment of recalcitrant melasma by Picolaser and Isobionicamide – Cysteamine combination: a Case Report





### Conclusion

Considering the safety of cysteamine even as long-term maintenance therapy, the increased depigmentation efficacy when combined with Isobionicamide, and the possibility of combining it with in-office procedures, there is hope that melasma treatment could become a more manageable condition in the near future.



Figure 1 Clinical images of the patient at the first visit (A) and at the last follow-up (B).











FIGURE 1. A, C, E) Before treatments; B, D, F) after four months of nightly cysteamine cream combined with four Nd:YAG laser treatments

*by BEVERLY JOHNSON, MD; SAMANTHA MARRONE, MD; and AMIT OM, MD Drs. Johnson, Marrone, and Om are with Florida State University in Tallahassee, Florida.* J Clin Aesthet Dermatol. 2020;13(3):28–30



# Sector Pigment focused lasers to combine Cyspera

PicoPico laser (short for picosecond laser) is an emerging treatment for melasma, especially in cases that are resistant to traditional therapies. Here's a detailed look at its role, benefits, and limitations:

A picosecond laser emits ultra-short bursts of energy in trillionths of a second ( $10^{-12}$  seconds). This rapid delivery allows it to break down pigment without relying on heat, unlike traditional nanosecond Q-switched lasers.

Common Pico Lasers for Melasma:

- PicoSure (755 nm)
- PicoWay (532 nm, 1064 nm)
- Discovery Pico (532, 1064, 694 nm)

Pico lasers:

- Use photoacoustic energy to shatter melanin into smaller particles
- Induce minimal thermal injury, which reduces the risk of post-inflammatory

hyperpigmentation (PIH), especially in darker skin types

May promote dermal remodeling via collagen stimulation



## > Pigment focused lasers - Pico

🔽 Benefits of Pico Laser for Melasma

- Effective in resistant or recurrent cases
- Lower risk of PIH than traditional lasers
- Can be used on darker skin types (Fitzpatrick IV–VI) with proper parameters
- Fast recovery time and minimal downtime

#### **<u>A</u>** Limitations and Considerations

- Melasma is chronic Pico laser is not a cure; maintenance is often needed
- Results are usually modest and gradual, requiring multiple sessions
- Costly compared to other options
- Combination therapy is best works better when paired with topicals (like cysteamine) and sun

#### protection

#### S Typical Treatment Regimen

- Sessions: 4–6 sessions spaced 2–4 weeks apart
- Post-care: Strict photoprotection, use of depigmenting agents
- Maintenance: May need periodic touch-ups

#### Studies show:

- Pico lasers can achieve significant reduction in MASI scores (Melasma Area and Severity Index)
- Fewer side effects in darker skin tones compared to Q-switched lasers
- Still under investigation long-term efficacy and relapse rates vary



## Sector Pigment focused lasers- IPL plus Cyspera

Intense Pulsed Light (IPL) therapy is a popular non-invasive treatment used to address various skin concerns, including hyperpigmentation. Here's an overview of how IPL works for hyperpigmentation and what you might expect from the treatment:

IPL is a light-based treatment that uses multiple wavelengths of light to target specific skin conditions. Unlike laser treatments, which use a single wavelength, IPL emits a broad spectrum of light that can be filtered to target various skin issues.

### How IPL Works for Hyperpigmentation

- \*\*Targeting Melanin\*\*: Hyperpigmentation occurs when there is an excess production of melanin, the pigment responsible for skin color. IPL targets the melanin in the skin, breaking it down and promoting its absorption by the body.
- 2. \*\*Stimulating Collagen Production\*\*: In addition to targeting pigmentation, IPL can also stimulate collagen production, leading to improved skin texture and tone.

3. \*\*Gentle Treatment\*\*: IPL is generally considered a gentler option than traditional lasers, making it suitable for a wider range of skin types and conditions. Although some precautions should be taken on Fitzpatrick 4-6 to pretreat to avoid PIH using an agent that does not cause photosensititivity



## > Pigment focused lasers- Nd:YAG plus Cyspera

Nd:YAG laser, which stands for Neodymium-doped Yttrium Aluminum Garnet laser, is a type of solid-state laser commonly used in various medical and cosmetic procedures. Here's an overview of the Nd:YAG laser, including its mechanism, applications, and benefits: - \*\*Laser Composition\*\*: The Nd:YAG laser uses a crystal made of yttrium aluminum garnet (YAG) that is doped with neodymium ions (Nd). When energy is applied (typically from a flashlamp or diode laser), the neodymium ions are excited and then emit light at specific wavelengths, primarily 1064 nm (near-infrared).

- \*\*Wavelength\*\*: The 1064 nm wavelength is penetrative and can target deeper layers of the skin and tissues, making it effective for various treatments.

The Nd:YAG laser is used in a wide range of medical and cosmetic applications, including:

1. \*\*Hair Removal\*\*: Nd:YAG lasers are effective for laser hair removal, especially on darker skin types, due to their deeper penetration and reduced risk of pigmentation issues.

2. \*\*Tattoo Removal\*\*: The laser can effectively break down tattoo pigments, allowing the body to eliminate the ink over time.

3. \*\*Vascular Lesions\*\*: Nd:YAG lasers are used to treat vascular lesions such as spider veins, hemangiomas, and other vascular malformations by targeting blood vessels and causing them to collapse.

4. \*\*Skin Resurfacing\*\*: The laser can be employed for skin rejuvenation and resurfacing, helping to reduce fine lines, wrinkles, and uneven skin texture.

5. \*\*Pigment Removal\*\*: Nd:YAG lasers can help reduce hyperpigmentation and age spots by targeting melanin in the skin.

6. \*\*Surgical Applications\*\*: In addition to dermatological uses, Nd:YAG lasers are utilized in surgical procedures, such as cutting and coagulating tissue.



## > Pigment focused lasers- Nd:YAG plus Cyspera

\*\*Versatility\*\*: The Nd:YAG laser can be adjusted for various settings, making it suitable for different skin types and conditions.

- \*\*Deep Penetration\*\*: Its ability to penetrate deeper tissues makes it effective for targeting vascular and pigmented lesions.

- \*\*Minimal Downtime\*\*: Many patients experience minimal downtime compared to more invasive procedures, although some redness and swelling can occur.

 \*\*Safety Profile\*\*: When performed by a qualified professional, Nd:YAG lasers have a good safety profile, especially for darker skin types.

### Risks and Considerations

- \*\*Side Effects\*\*: Potential side effects include redness, swelling, blistering, and changes in skin pigmentation. These effects are usually temporary.

- \*\*Skin Type\*\*: While the Nd:YAG laser is generally safe for all skin types, careful consideration and assessment are necessary to determine the appropriate settings and treatment plan.

- \*\*Multiple Sessions\*\*: Several treatment sessions may be required to achieve optimal results, depending on the specific condition being treated.





## Protocols with devices and Cyspera





Cyspera® can be used as a stand alone routine, or can be combined with :

Energy based and other devices including:

- Pico, IPL, Fraxel, Ultrasound, Plasma, Microneedling
  - ✓ Cyspera® can be applied until the day before skin procedure. Pretreat for 4 weeks prior to procedure.
  - After skin procedure, wait till all erythema and desquamation has resolved before applying again Cyspera®.
     Continue for additional 12 weeks or until the next procedure is due.





## Cyspera®

Practical Use in improving patient outcomes and success in dispensing



# About the Speaker

Dr Michela Zazzaron, MD, obtained her Diploma of Medicine and Surgery at the University of Padua, where she completed a fellowship in Molecular Biology. She furthered her studies with a 4-years Diploma at the School of Aesthetic Medicine VALET in Bologna, then obtained a Master in Trichology at the University of Florence and completed a Master's Diploma program in Anatomy of the Facial Superficial Structures at the University of Nice in France. In 2018 she attended an IFAAS Fellowship in Seoul on Mini Invasive Facial rejuvenation and Lifting.

Dr Zazzaron has been a Cosmetic Physician and medical Trichologist since 2008, with a particular focus on the prevention of skin and hair aging, now she manages a multi-disciplinary team of Doctors, Nutritionists and Physiotherapists. Since 2012 she has participated as speaker and trainer in major national and international congresses of Aesthetics Medicine and Anti-aging Science, presenting innovative protocols for facial rejuvenation. She is Speaker and Key Opinion Leader for Major Companies of Aesthetics Fields (IBSA, IPSEN, EVOLUS, FILLMED, MASTELLI) and teaches internationally courses about injectables. She has been involved in some R&D projects as consultant for Aesthetic Pharmaceutical Companies and speaks fluently English and French.

Dr Zazzaron is enrolled in several Scientific Societies: she is part of the Scientific Committee of AITEB (Italian association of Aesthetic Use of Botulinum Toxin), she is member of the Italian Society of Trichology (SiTri), she collaborates with the most important Italian Aesthetic Medicine Societies for didactics (f.e AGORA Faculty for the national congress). Dr Zazzaron is Professor for the Master in Aesthetic Medicine of the Face of the Catholic University of Mursia (UCAM). Dr Zazzaron published articles on indexed journal about injectable treatments and is co-author of several book about regenerative medicine, body laxity and Anatomy of the Face for Aesthetics.

She is inventor and owner of a Patent for a Solution for Hair Loss.



UV Photoprotection	Strong Antioxidant	Increases NAD+ and cell life span	Increases intracellular glutathione
Reduces melanocyte inflammaging	Textural improvements	Radiance, glowing	Anti- melanogenic





No photosensitivity	Non-carcinogenic, Non-mutagenic	Non-cytotoxic	No thinning of the skin (no corticosteroid)
Safe for all skin types fitz 1-6	No hypopigmentation, no hyperpigmentation	No risk of ochronosis	No halo or greying affect on darker skin



### Cyspera® - The portfolio











Always apply Cyspera<sup>®</sup> Original+ on a rested skin. Do not wash the skin before application. If necessary to wash, wait for one hour before application.





Apply a thin layer on a rested skin and leave on for 15 minutes. Step 2 Rinse off with neutralize or a gentle cleanser. Gently pat the area dry.



Apply boost or a moisturizer. Maintain skin hydration during the day.

#### #TIPS

- For optimal results, daily use of a broadspectrum sunscreen with SPF 30 or higher is highly recommended.
- For sensitive skin, it is important for the skin to acclimate to Cyspera® Original+ by limiting initial use to 5 minutes once per day. After one week, increase to 15 minutes exposure (or as advised by your doctor).
- For intimate skin, apply 1 pump of product before showering, leave the cream on for 5 minutes, then rinse off.



## INTENSIVE – Intensive Pigment Correction

#### Cyspera Intensive Advanced Pigment Correction for Fast Results



Isobionic-Amide Cysteamine complex

Our strongest combination **of Isobionic-Amide & Cysteamine** for maximum results and faster onset of action.

#### **Claims and Results:**

- ✓ Smoother Skin Texture: 81% of users report smoother skin after using the product, showing a significant improvement in skin texture.
- ✓ Healthier-Looking Skin: 77% of users observed a visibly healthier complexion, demonstrating the product's effectiveness in enhancing skin vitality.
- ✓ Radiant Complexion Boost: With 74% of users noting a brighter and more radiant complexion after each use, the product effectively enhances skin radiance for a fresher appearance.

#### How to Use:

- ✓ Application: Apply a thin layer once daily to unwashed skin for 5-15 minutes. Start with 5 minutes and gradually increase to 15 minutes.
- ✓ Routine: Use during the intensive phase (16 weeks or unless the lesions have disappeared) daily, then reduce to twice a week for maintenance.
- ✓ Important Note: Use broad-spectrum sunscreen (SPF 30 or higher) daily for optimal protection. Avoid the use of retinol, AHA, or prescription creams while using Cyspera Intensive.



### **ORIGINAL+** – Sensitive Pigment Correction

#### Cyspera Original+ Gentle Depigmentation Formula



Isobionic-Amide Cysteamine complex

The balanced combination of **Isobionic-Amide & Cysteamine** for a powerful yet gentle pigment correction.

#### **Claims and Results:**

- ✓ Visible Radiance: 78% of users noticed a visible reduction in the intensity of pigment spots and enhanced brightness.
- Confidence in Sensitive Areas: 82% of users experienced improved appearance in intimate areas, with 100% achieving a more even tone.
- Safe for Daily Use: Suitable for all skin types, including sensitive skin, with no reported adverse effects or irritation.

#### How to Use:

- Application: Apply to unwashed skin once daily, starting with a 5minute application time, gradually increasing to 15 minutes as skin tolerates. Rinse off with a gentle cleanser and maintain skin moisturized.
- ✓ For Intimate Areas: Use one pump, apply for 5 minutes, then rinse off.
- ✓ Daily Routine: Use a broad-spectrum sunscreen for optimal results and avoid washing skin immediately before application.



### Discover the gentle power of Cyspera Original+

Independent study conducted on the intimate area of 11 women over a 4-week period

#### METHODOLOGY

Study subjects	Number of subjects: 11 Age: 18+ Gender: Women Skin type: Phototype > III
Experimental area	Intimate area (including the vulva area and the pubis area)
Application	Duration: 28 days Usage: Before showering, apply 1 pump of the product, leave it on for 5 minutes and then rinse off
Study parameters	Gynecologist's evaluation Self-assessment questionnaire

# 91%

experienced a noticeable reduction in the discoloration of their intimate areas

reported smoother skin in their intimate regions after using Original+

91%

# 100%

found Original+ easy to spread and delightful to use even on the intimate area



Reference: Data on File. Independent study, 12 weeks (Poland, 2024)



#### Cyspera Boost Amplify efficacy and tolerability



Isobionic-Amide

Complementary Isobionic-Amide Boost to multiply tolerance and efficacy.

#### **Claims and Results:**

- Amplified Brightness: 82% of patients noticed an improvement in skin complexion, with 86% reporting their skin appeared more radiant and luminous.
- ✓ Enhanced Skin Health: 84% of users found their skin visibly smoother, with 77% experiencing improved skin health.
- ✓ Anti-Wrinkles: 95% of users had reduction of wrinkles.
- ✓ Calming effect: 85% of skin erythema decrease after 3 days, compared to control (irritated untreated skin)

#### How to Use:

- ✓ Application: Use after applying Cyspera Intensive or Original+ to maintain and enhance results.
- ✓ Routine: Apply daily during maintenance or as part of a daily routine to lock in glow and hydration.



## Protocol options

Cyspera® can be used as a stand alone routine, or can be combined with :

Skin procedure

- ✓ Cyspera® can be applied until skin procedure. After skin procedure, wait for end of redness, desquamation before applying again Cyspera®.
- Cyspera® can be associated with pigmentary, vascular or ablative lasers, microneedling, Hydrofacial, Dermaabrasion, peelings, etc.

Oral products

- ✓ Cyspera® can be combined with oral tranexamic acid, oral anti-acne, oral antibiotics.
- $\checkmark$  Cyspera® can be combined with oral retinoids, only by limiting frequency of application to 5min, 2x/3x weekly.

Injection

 Cyspera® can be combined with injection, including injection of tranexamic acid, by simply avoiding the application of the product the same day of the injection.

Other topicals

- Avoid concomitant use of retinoids, AHA, ethanol-based products (such as toner), especially at start of Cyspera. After 4 weeks of use, possible to add retinoids, AHA back in.
- ✓ Cyspera<sup>®</sup> can generally be combined with Vitamin C and Hyaluronic acid.



How long should the patient use the treatment?

Until the lesions disappear :

- ✓ Daily use.
- ✓ Final results usually achieved after 3 to 5 months of daily use (no limit for daily use ! No need to stop after 16 weeks !).
- ✓ First visible results usually begin after ~4 weeks of application.

Maintenance phase

- ✓ Twice weekly applications.
- ✓ Needed for melasma, lentigo and photoaged skin.
- ✓ Not needed for post-inflammatory hyperpigmentation (if the initial cause has been resolved).
- ✓ No time limit for the maintenance phase (no long-term side effects).
- ✓ Possible to go back to daily use if necessary.

Can be use during summer-time and suitable for all phototypes.





Transient tingling, warm sensations or mild redness: usually subside in a few minutes.

Irritation may happen in the case of:

- ✓ Prolonged time of application of Cyspera Intensive<sup>™</sup> from the beginning.
- ✓ Washed skin just before the application of Cyspera Intensive™.
- ✓ Combination with other potential irritant product (retinoids, ethanol-based products, peeling, AHA,..).
- ✓ Use of a thick layer of the cream.
- ✓ Very dry skin or already irritated skin : moisturizing the skin before the application of the Cyspera Intensive<sup>™</sup> prevent this situation.
- $\rightarrow$  PIH may occur in the case of prolonged non managed skin irritation.
- → In case of irritation, discontinue use until skin recovers, then restart application of Cyspera Intensive<sup>™</sup> for 5 minutes or reduce frequency of use (2/3x per week).



Conclusion : Cyspera® Pigment Correction

## Laurin.Cabralissa@scientispharma.com www.cyspera.com

The first line non-HQ option in hyperpigmentation

Sole non-hydroquinone topical regimen clinically proven

- ✓ as effective as Kligman's formula,
- $\checkmark$  with same onset of action

Option for **long-term maintenance therapy** for melasma, thanks to an **absence of long-term side effects** and a **high patient's satisfaction.** 



