

Dr.MAL

Photo Dynamic Therapy

A brief introduction only to professional

What is Dr. MAL?

PDT Solution
[9 vials (1.1mL/0.04 oz.) / 1 box]



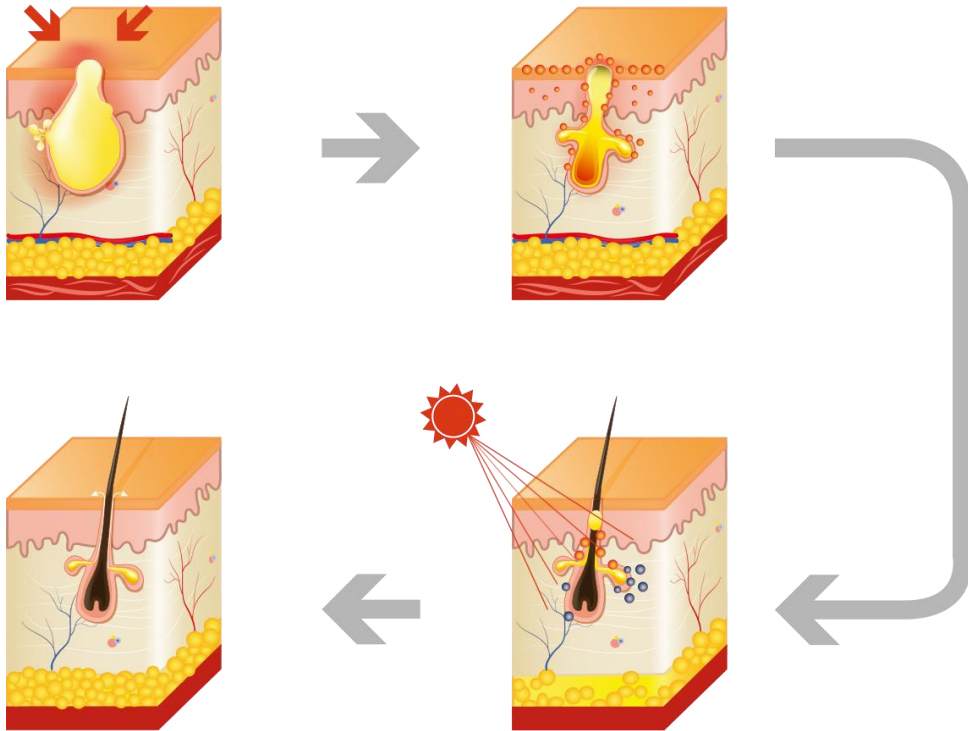
Post-Dr. MAL Cleanser (100mL/3.38 oz.)
/ Neutralizing solution - Cleanser

Dr. MAL consists of MAL (Methyl Aminolevulinate HCl) ingredients, used for photodynamic therapy (PDT)*.

As a therapy that destroys sebum and inflammation, which are the fundamental causes of troubled skin, it effectively manages troubled skin and helps recover skin conditions.

What is PDT? *The principle*

When a pore with inflammation absorbs the Dr.MAL(Methyl ALA), it is transformed into Pplx.



Photodynamic Therapy refers to the process of irradiating the light energy of a certain wavelength, followed by the application of a photosensitizer, which selectively permeates into the sebaceous glands and pores, on skin. It helps improve troubled skin.

As the light of a certain wavelength is irradiated, it destroys acne bacteria and sebaceous glands resulting in the reduced inflammation.

Main Ingredients

Methyl - ALA 13%

Existing 5-ALA	VS	Dr.MAL
Water-soluble		Oil-soluble
Non-effective absorption		Fast Absorption
Potential side effects		Almost no side effects
Severe pain		Almost no pain
Affects daily living		No impact on daily living

Panax Ginseng Callus Culture Extract



Effective for strengthening damaged skin barriers

Why Dr.MAL ?



J Clin Aesthet Dermatol. 2009 February; 2(2): 44–47.

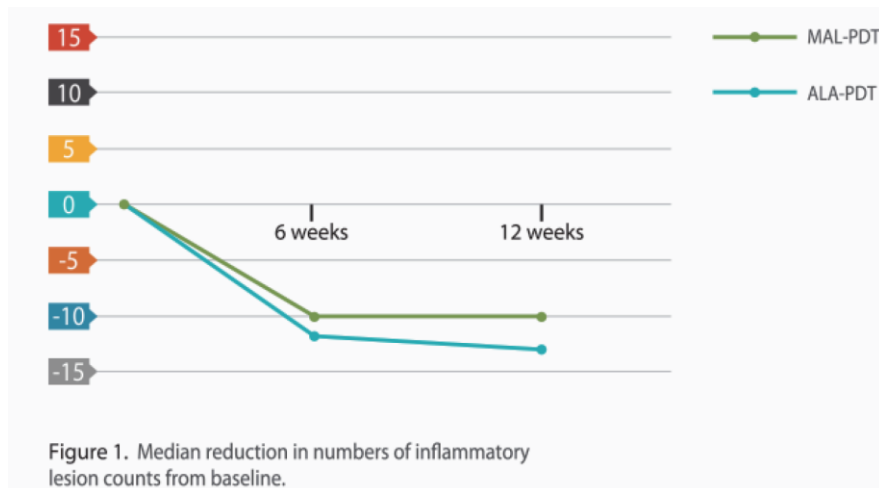
Therapeutic and Aesthetic Uses of Photodynamic Therapy Part five of a five-part series ALA-PDT and MAL-PDT What Makes Them Different

Michael H. Gold, MD

Methyl-ALA (MAL) minimizes the skin damage, pain which may occur during PDT.

According to the reports by Wiegell and Wulf, MAL is reported to cause less pain, compared to ALA, while simultaneously having a short post-treatment waiting time with reduced PDT side effects, hence proven to be effective for treatment.¹

High Satisfaction Level



J Am Acad Dermatol. 2006 Apr;54(4):647-51.
**Photodynamic therapy of acne vulgaris
using 5-aminolevulinic acid versus methyl
aminolevulinate.**

Wiegell SR, Wulf HC.

MAL, which consists of methyl derivative bound to ALA, shows **greater prognosis** than the existing ALA.²

MAL-PDT showed a significantly **greater** effect in the improvement of troubled skin conditions when compared to ALA-PDT.

Short Incubation Time 25-30 mins



J Photochem Photobiol B 62(3):140-5 (2001 Sep).
Selective distribution of porphyrins in thick basal cell carcinoma after topical application of methyl 5-aminolevulinate
Peng Q, Soler AM, Warloe T, et al.

Table 3. Depth of porphyrin fluorescence in lesions

	3h	18h
Lesion depth (mm) per dose of methyl 5-aminolevulinate : mean ± S.E. (range)		
16mg/g	1.5 ± 0.26(0.7-2.2)(5)	1.0 ± 0.09(0.8-1.2)(5)
80mg/g	1.6 ± 0.21(1.0-2.0)(5)	1.1 ± 0.07(0.9-1.3)(5)
160mg/g	1.4 ± 0.22(0.6-2.0)(6)	1.2 ± 0.16(0.9-1.9)(6)
Depth of porphyrin fluorescence (mm) mean ± S.E. (range)		
16mg/g	0.7 ± 0.18(0.0-1.0)(5)	0.5 ± 0.19(0.2-1.1)(5)
80mg/g	1.0 ± 0.26(0.0-1.4)(5)	1.0 ± 0.11(0.6-1.3)(5)
160mg/g	1.3 ± 0.21(0.6-2.0)(6)	0.8 ± 0.24(0.4-1.9)(6)
Relative depth of porphyrin fluorescence (%) mean ± S.E. (range)		
16mg/g	55.7 ± 16.4(0-100)(5)	52.0 ± 19.7(16.7-100)(5)
80mg/g	61.5 ± 17.5(0-100)(5)	88.2 ± 9.7(50-100)(5)
160mg/g	98.3 ± 1.7(90-100)(6)	66.9 ± 14.9(25-100)(6)

* Number of subjects measured.

Methyl-ALA (MAL) is oil-soluble, hence has a greater skin absorption rate when compared to the existing ALA.³

The higher the level of concentration of MAL, the greater the amount of Porphyrins that are absorbed by the skin. Hence, the amount of Porphyrins absorbed is proportionate to the level of concentration of MAL.

Minimized Cell Damage

Photochem Photobiol 1998; 68:218-21.

Preferential relative porphyrin enrichment in solar keratoses upon topical application of δ -aminolevulinic acid methylester.

Fritsch C, Homey B, Stahl W et al.

Table 2. Porphyrin levels and distribution of porphyrin metabolites 6 h after substrate application*

	Substrate	Total porphyrins (nmol/g protein)
Normal skin	No	1.2 ± 0.1
	ALA	7.2 ± 0.5
	ALA-ME	1.7 ± 0.2
Solar keratoses	No	1.3 ± 0.1
	ALA	$36.4 \pm 4.0^*$
	ALA-ME	14.9 ± 2.2

As the amount of Porphyrins absorbed within the healthy cells of MAL (1.7nmol/g) is lower than that of ALA (7.2nmol/g) approximately by 1/7, the skin damage caused by MAL-PDT could be considered to be less than the damage caused by ALA-PDT.⁴

Simple Application

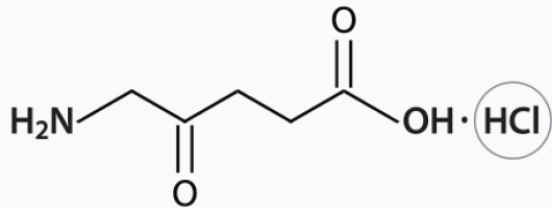
The Korean society for acne research, 2011:41

**Methyl aminolevulinate photodynamic therapy for acne :
Red light vs. Intense pulsed light. Jong soo Hong, MD, Jae
Yoon Jung, MD, Ji Young Yoon, BS, Dae Hun Suh, MD, PhD**

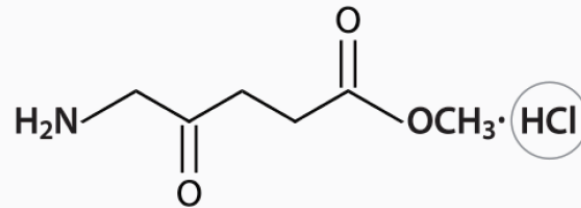
Fritsch C, Homey B, Stahl W, Lehmann P, Ruzicka T, Sies H
Fritsch C, Homey B, Stahl W et al. Peng Q, Soler Am, Warloe T, et al.

In case of using Methyl-ALA, merely
conducting the LED irradiation leads to
the same effects by IPL⁵

Post Dr.MAL Cleanser included



ALA (5-Aminolevulinate HCl)



Methyl - ALA (Methyl Aminolevulinate HCl)

MAL Neutralizing solution inhibits the conversion into Pplx by neutralizing the remaining MAL and ALA on the skin surface.⁶

Post-Dr. MAL Cleanser minimizes the side effects that may be caused from the ALA remaining on skin.

Dr.MAL program *How to use*



① Preparation

Cleansing

Peeling helps the absorption of Dr. MAL



Acne Extraction



Dr.MAL program *How to use*



② Photo Dynamic Therapy

Application of
Dr. MAL
1 vial



Incubation (20~25 min)
The process in which the MAL absorbed by skin binds with inflammatory cells and sebaceous cells. Prevent light by covering the entire face with a wrap then covering it with blackout towel.

Removal of remaining Dr.
MAL
Cleanse the area completely using a cleansing sponge

LED Irradiation
(RED Light 630nm)
15~20 min
PDT reaction; Absorbed Dr.MAL solution meets the LED Light source.



Dr.MAL program *How to use*

③ Finishing

Post-Dr.Mal Cleanser

(3~5 times pumping)

Post-Dr.Mal helps decompose the solution remaining on the skin surface. Gently rub with fingers for 3~5 minutes. It prevents tanning which could occur after PDT reaction.

Removal Post-Dr.MAL Cleanser

Cleanse the area using a cleansing sponge

Skin relief Cooling & Regeneration

Refer to the next page

UV Prevention



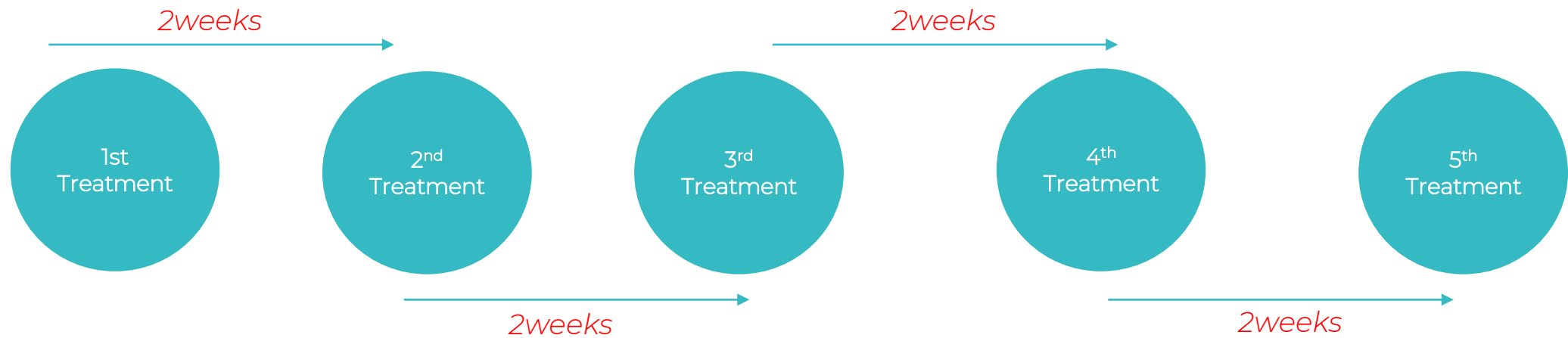
PDT Incubation & LED Guideline

Skin Type for PDT	MAL incubation	LED Irradiation (RED 630nm)
Standard Treatment	20 min~25 min	15 min~20 min
1st Treatment	20 min	15 min
After MTS	15 min	10 min
Sensitive skin with thin skin	15 min	10 min
Thick skin with low absorption capacity	25 min	20 min
Oily skin with enlarged pores	15 min~20 min	15 min
Inflammatory acne skin	25 min	15 min

**The number of treatments may vary depending on the clients' skin condition. **Must be used under the supervision of skin-care professionals.*

PDT Incubation & LED Guideline

A total of 3~5 treatments
1 treatment every 2 weeks recommended



Post procedure products *recommended*



Nicomed

Nicotinamide 4%

- For skin with inflammation and redness
- Steroid Free
- Water-soluble vitamin. No toxicity
- Relieves redness of acne
- Accelerates synthesis of ceramides in keratin layer
- Increases moisture retention capacity of skin



EPIDERM PLUS Gel and Mask

Centella Asiatica Extract, EGF, Snail Secretion Filtrate, Copper Tripeptide

- For immediate soothing and regeneration of the irritated skin after procedures
- For skin rejuvenation
- Maintains moisture in skin layers
- Strengthens the skin barriers

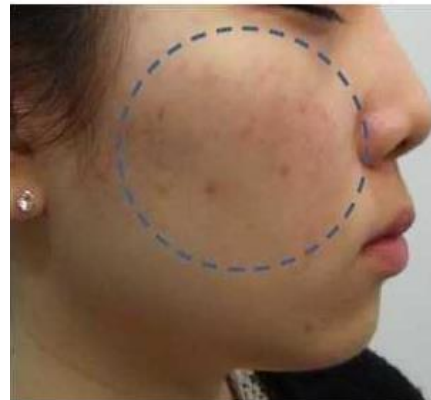
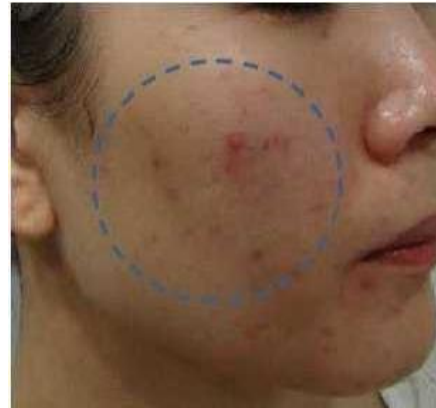
Case study 1

32 y.o woman for 5 sessions



Case study 2

39 y.o women with troubled skin for 5 sessions



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skinzzo 4.0 medical

