



Protocol for Inflammatory Dermatitis Supported with PBM and LADD

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Introduction:

Chronic inflammatory dermatitis presents with barrier disruption, erythema, pruritus, and recurrent flares that impair quality of life. Established laser protocols using 1064 nm Nd:YAG provide bactericidal and anti-inflammatory effects, while supplementary Photobiomodulation (PBM) further accelerates skin recovery by counteracting inflammation. PBM with 1064 nm Nd:YAG modulates inflammation, improves microcirculation and lymphatic flow, and promotes repair safely across all phototypes. To enhance tissue recovery, PBM is combined with Laser-Assisted Drug Delivery (LADD). Using fractionated Er:YAG in cold MSP (Micro Short Pulse) modality at low fluences, controlled micro-channels are created in the epidermis without aggravating the condition, allowing regenerative agents such as exosomes (2 cc Kimera VIVE) to penetrate the skin. This dual approach—PBM for inflammatory control and LADD for targeted delivery—works synergistically to regulate the inflammatory cascade and promote tissue resilience and recovery. When integrated with selective Nd:YAG steps, the method can shorten downtime, reduce erythema and scaling, and enhance tissue resilience.

Laser	Fotona SP Dynamis			
	Step 1	Step 2	Step 3	Step 4
	Bactericidal	Anti-inflammatory	Drug Delivery Exosomes	PBM
Wavelength	1064 nm	1064 nm	2940 nm	1064 nm
Handpiece	R33T	R33T	FS01	MarcCo M
Spot size	4 mm	4 mm	9x9 mm	24 mm
Fluence	35 J/cm ²	10 J/cm ²	5 J/cm ²	0.2 W/cm ²
Pulse duration	25ms	0.6 ms	0.1 ms	0.1 ms
Pulse modality	Versa	FRAC3	MSP Basic	PLLT
Frequency	3.6 Hz	15 Hz	4 Hz	9 Hz
Passes per Area (4) Forehead, cheekbones, central triangle.	6 passes	Multiples until reaching 1000 Pulses	1 Pass	Multiples until reaching 1000 Pulses
Cooling	0° C at level 1	NONE	NONE	NONE
Technique	Brushing in criss- cross fashion	Brushing in criss-cross fashion	No Overlap	Brushing in criss- cross fashion
Sessions	2 nd session: 4 days after the 1 st ; 3 rd session: 6 weeks after the 2 nd .			



Wesma Stephany Morales is a Colombian-born, Puerto Rico-based Dermocosmiatrician (Faculty of Medical Sciences, Argentina) and microbiologist (Universidad Libre de Colombia) with 15+ years in skin health. She is the Founder & CEO of Sole y Luna Spa (Arecibo, Puerto Rico), known for an evidence-based, personalized approach. With 5+ years working with energy-based technologies and 12 official Fotona trainings, she designs needle-free, non-injectable protocols prioritizing science, safety, and patient well-being.

CLINICAL CASE:

This clinical note demonstrates protocol efficacy in a 23-year-old Fitzpatrick IV patient with mild-to-moderate inflammatory facial dermatitis. Treatment began with meticulous skin preparation. A double cleanse was performed using a gentle formulation suitable for reactive skin. Anesthesia was omitted, as the fluences were not significantly ablative and the protocol avoids discomfort. Hypochlorous acid spray was applied for immediate surface bactericidal action, a key preemptive step in inflammatory conditions. After drying, the face was divided into four regions: forehead, cheekbones, and the central triangle.

Step 1 provided bactericidal action, followed by Step 2 for inflammation control through modulation of pro-inflammatory cytokines. Step 3, Laser-Assisted Drug Delivery (LADD), created ultra-superficial micro-channels to facilitate penetration of regenerative agents applied after PBM. Step 4, Photobiomodulation (PBM), acted as the regenerative engine—controlling inflammation, energizing cells, and inducing gene expression for tissue resilience. Total PBM time was 8 minutes for the full face. The protocol concluded with application of Kimera Exosomes (VIVE category, 2 cc) immediately after PBM, distributed with a disposable dropper to optimize penetration through the LADD-created micro-channels.

In this moderate exacerbation, two sessions spaced 3–4 days apart significantly accelerated barrier repair; the second was performed 4 days after the first, followed by a reinforcement session 6 weeks later. Session timing (rapid repetition or 4–6 week intervals) remains at professional discretion based on tissue stability. Post-treatment care focused on repair and protection: a re-epithelializing agent such as Panthenol Ceutic was essential, with no scaling or downtime observed. Patients were instructed to avoid intense exercise for 48 hours, limit sun exposure for 21 days, avoid makeup for 72 hours, and maintain strict hygiene, including avoiding contact with pets and animal hair. Once stable, maintenance consists of a simplified regimen (cleanser, antioxidant, moisturizer, SPF) with re-evaluation every 2–3 months using only Nd:YAG and PBM.

This protocol applies not only to dermatitis but also to inflammatory conditions such as rosacea and barrier dysfunction, representing a structured, non-pharmacological strategy for tissue repair and long-term dermal stability. Clinical photo comparison demonstrated marked reduction in erythema, scaling, and inflammation four days after the second session, and the patient reported no further exacerbations after the third session, supporting sustained barrier stabilization.



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