

MINI - REVIEW

Cosmetics, dermocosmetics and cosmeceuticals in aesthetic medicine: What we have never asked, and why it matters. A clinical perspective

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ABSTRACT

Introduction: Dermocosmetics are widely used in aesthetic and dermatologic practices; however, they remain one of the most conceptually misunderstood tools available to clinicians. Terms such as “cosmetic,” “dermocosmetic,” and “cosmeceutical” are frequently employed as if they reflected distinct regulatory or scientific categories, whereas, in practice, they represent cultural, methodological, and clinical gradients rather than legal definitions.

Objectives: This perspective aims to clarify these conceptual boundaries and examine the scientific elements that distinguish dermocosmetics from standard cosmetics, without conferring upon them a therapeutic role.

Methods: By integrating regulatory context, formulation science, methodological rigor, and clinical relevance, this paper provides an evidence-informed framework for evaluating dermocosmetics in clinical practice.

Results: This framework highlights the differences between dermocosmetics and standard cosmetics, offering clinicians a structured approach to interpret their use beyond marketing terminology.

Conclusions: The goal is not to elevate dermocosmetics as a “superior” product class, but to provide clinicians with the knowledge needed to guide patients responsibly in an area where marketing vocabulary often obscures scientific meaning.

Key words: dermocosmetics cosmeceuticals, aesthetic medicine, skin barrier, formulation science, post-procedure care



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Introduction

The contemporary aesthetic patient does not solely inquire whether a product “works,” but rather what the physician personally recommends. This shift has silently integrated dermocosmetics into the daily workflow of aesthetic medicine, often without an explicit scientific framework. While clinicians readily prescribe pharmacologic treatments and perform procedures with precision, many hesitate when asked to recommend a skincare product. This hesitation is understandable, yet the skin itself does not distinguish between pharmacology and cosmetology. It responds to formulation architecture, barrier coherence, tolerability and biologic compatibility^{1,2}.

This hesitation stems from a cultural and educational gap rather than a scientific one. In clinical settings, cosmetics are often regarded as consumer retail products, whereas the term “cosmeceutical” conveys an implication of scientific superiority, despite lacking formal regulatory recognition³⁻⁵. Similarly, dermocosmetics is also a misunderstood term: it evokes a connection with dermatology, but it is neither protected nor standardized¹.

For the aesthetic physician, this ambiguity creates both risks and opportunities. The risk lies in relying on labels and marketing language rather than scientific evidence. The opportunity is to integrate a scientifically grounded approach to daily skincare that strengthens the continuity between procedures, pharmacologic regimens, and patient adherence^{1,6}.

Methods

This manuscript is a narrative mini-review with a clinical perspective, aimed at critically examining the terminology used in skincare—namely “cosmetics,” “dermocosmetics,” and “cosmeceuticals”—and clarifying their scientific and clinical implications in aesthetic medicine.

A non-systematic literature search was conducted using major medical databases, including PubMed/MEDLINE, Scopus, and Google Scholar, focusing on dermatology, cosmetic science, regulatory frameworks, and clinical practice. Additional references

were selected based on their relevance to formulation science, dermocosmetic development, and clinical application.

The objective of this work is not to provide an exhaustive systematic review, but rather to offer an evidence-informed conceptual framework to support clinical reasoning and improve physician decision-making in daily practice.

The uncertain language of skincare: why definitions matter

“Cosmetics” are legally defined and regulated⁷: they must be safe, their ingredients must comply with strict toxicological standards, and their labeling must be accurate. Crucially, however, they are not required to demonstrate therapeutic efficacy. They may support skin function within cosmetic boundaries, yet are not permitted to claim therapeutic or disease-related effects.

“Cosmeceutical”, despite its popularity, is a non-regulated term. It suggests enhanced activity but does not entail pharmacologic evaluation, clinical trials, or specific quality requirements. Consequently, the scientific value of this term depends entirely on the manufacturers and varies greatly across products⁸.

“Dermocosmetic” occupies a unique space. It has no legal definition, but it signals an intention to develop a cosmetic informed by dermatologic knowledge, designed for fragile or reactive skin, and evaluated through voluntary clinical or instrumental methodologies. Yet, the absence of regulatory protection means the term can be adopted by manufacturers with vastly different scientific commitments. Some dermocosmetics undergo rigorous testing on compromised skin^{9,10}, while others resemble standard cosmetics with “medicalized” packaging. For clinicians, the implication is clear: the credibility of a dermocosmetic depends on its methodology, not on its name.

Safety, tolerability, and the limits of regulation

Safety is not a differentiating factor in dermocosmetics; it is a universal legal requirement for all

cosmetic products. What scientifically distinguishes dermocosmetics is not the mere absence of harm, but the documented evaluation of tolerability and performance in specific skin conditions. These may include acne-prone skin undergoing retinoid therapy, atopic dermatitis¹¹, rosacea, or post-procedural fragility.

The legal framework ensures that cosmetics are safe for the general population; the dermocosmetic framework—when truly scientific—investigates whether a product is appropriate for a clinically relevant subgroup.

Evidence: science beyond obligation

The absence of regulatory obligation does not imply the absence of rigorous studies. Leading dermocosmetics are evaluated through methodologies comparable to those used in clinical research on non-pharmacological interventions¹. Distinct from standard cosmetics, research-driven manufacturers often invest in proprietary, patented active ingredients¹². These are not merely commercial assets but the result of targeted research aimed at specific biological pathways. Furthermore, this commitment often extends beyond product launch, with post-marketing surveillance and real-world evidence studies enabling the assessment of long-term tolerability and efficacy in diverse populations—beyond what pre-market testing can capture¹³⁻¹⁶.

Instrumental techniques provide objective parameters¹ and are particularly suited to the cosmetic domain because they measure physiological functions without entering therapeutic claims. These include transepidermal water loss (TEWL) for barrier integrity, corneometry for hydration, sebumetry for lipid balance, and profilometry for texture. In vitro and ex vivo models contribute mechanistic insight into barrier repair, soothing pathways, and re-epithelialization processes. While not all studies reach peer-reviewed publication due to market timelines, transparency of methodology remains the cornerstone of credibility. For the clinician, the relevant question is not just “is it published?”, but “is it well-designed and biologically plausible?”.

Formulation science: the hidden architecture

In aesthetic medicine, the focus often falls on active ingredients, yet it is the vehicle that determines the compatibility between a product and a specific skin condition. A gel does not behave like a cream; a balm does not resemble a serum. These are functional architectures, not aesthetic choices. The vehicle shapes penetration, film formation, occlusivity, and interaction with the microbiome¹⁷. It determines whether a formulation will be tolerated by a patient undergoing chemical peels or a rosacea patient prone to flushing. Recognizing this nuance is not marketing knowledge; it is scientific literacy. Often, it is the vehicle—not the active—that dictates clinical compatibility².

The educated skin: a clinical practice of daily care

Dermocosmetics contribute to what may be called an “education of the skin.” A consistent routine supports barrier stability, regulates reactivity, and prepares the skin to respond more predictably to aesthetic procedures. Patients who understand the logic of their skincare regimen often experience fewer irritative responses and better adherence to medical treatments, also enhancing long-term results^{1,6}.

Skincare is not merely an adjunct to procedures; it is a low-intensity, high-frequency clinical intervention¹. Describing dermocosmetics as “surface medicine” does not diminish their relevance; rather, it acknowledges the complexity of the skin surface as an interface governed by barrier function, immunity, and microbial ecology, which shapes clinical outcomes.

The ethical responsibility of the aesthetic physician

Skincare recommendations require clinical reasoning, not outsourcing. Some clinicians defer skincare recommendations to pharmacists. While collaboration is valuable, the primary evaluation should remain clinical. Skincare recommendation is an act of medicine when based on knowledge, appropriateness, and

personalization. It must ensure that products are coherent with the patient's skin condition, the procedures performed, the treatment plan and the safety profile.

The physician is not a brand promoter, nor a passive intermediary, but an interpreter of cutaneous science. Patients entrust their skin to medical expertise, and clinicians have the responsibility to provide coherent, evidence-informed guidance.

Conclusions

Dermocosmetics represent a scientifically meaningful, clinically relevant dimension of aesthetic medicine. They are not therapeutic agents, nor should they be idealized as superior cosmetics. Their value lies in their methodological transparency, physiologic rationale, coherent formulation science and clinical appropriateness. For aesthetic physicians, integrating dermocosmetics into practice is not a concession to commercial pressure, but an extension of clinical responsibility - one that bridges procedures, pharmacologic treatments, and the daily biological life of the skin. Dermocosmetics are not a trend. They are a language: preventive, evidence-informed, ethically grounded and deeply human.

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