Red Light Therapy in Cosmetic Dermatology: Are Marketing Claims Backed by Evidence?

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BACKGROUND AND AIMS

Red light therapy (RLT) has rapidly expanded from a niche wound-healing modality into a multibillion-dollar skincare trend marketed as a way to 'heal the skin from within'.[1-5] Across social media, medical spas, and direct-to-consumer advertising, RLT is promoted as a transformative tool for various dermatologic conditions.[6-8]

METHODS

The authors performed a narrative review to identify the conditions most commonly marketed for RLT among top-selling products, characterize how these treatments are advertised, and critically compare these claims with current scientific evidence.

RESULTS

For acne, RLT is marketed as a quick and natural way to clear breakouts. Evidence demonstrates that RLT reduces inflammatory cytokines, modulates sebaceous activity, and disrupts *Cutibacterium acnes* colonization, resulting in modest improvements in inflammatory lesions.[9] However, results take weeks to months of consistent use, contrasting with the 'overnight clear skin' marketing.[6,7]

In photoaging, RLT is advertised as a collagen-boosting alternative to injectables and surgery. Clinical studies confirm fibroblast stimulation and incremental improvements in fine lines, texture, and elasticity,[1,5] but benefits are subtle, temporary without maintenance, and far less dramatic than 'facelift in a mask' narratives.[3,6,7]

For hair growth, RLT devices are promoted as effortless solutions to androgenetic alopecia. RCTs demonstrate increased hair density and shaft thickness with helmet and comb devices.[5] The outcomes depend on adherence and do not match promises of 'permanent regrowth'.[3,6]

CONCLUSION

Overall, while RLT demonstrates biologic plausibility and growing clinical support, commercial messaging often outpaces the evidence. Marketing frequently overstates the speed, magnitude, and consistency of results, at times portraying RLT as a broadly effective solution across multiple dermatologic conditions despite variable and condition-specific data. These claims rarely clarify which indications are well-supported versus emerging in evidence, or which patient populations may derive limited benefit. Although safety messaging, such as its UV-free nature and lack of association

with skin cancer, is generally accurate, it is often presented as reassurance rather than as context for understanding both the mechanism and limitations of therapy. As with many aesthetic technologies, industry adoption and direct-to-consumer promotion have progressed more rapidly than clinical standardization. Dermatologists, therefore, play a critical role in helping patients interpret these claims, emphasizing appropriate patient selection, realistic expectations, and evidence-based use.

Reference

1. Chaves ME et al. Effects of low-power light therapy on wound healing: LASER x LED. An Bras Dermatol. 2014;89(4):616-23.
2. Cotler HB. A NASA discovery has current applications in orthopaedics. Curr Orthop Pract. 2015;26(1):72-4.
3. Stanford Medicine. What's the deal with red light therapy? 2025. Available at: https://med.stanford.edu/news/insights/2025/02/red-light-therapy-skin-hair-medical-clinics.html. Last accessed: May 28, 2025.
4. Chen P et al. Low-level photodynamic therapy in chronic wounds. Photodiagnosis Photodyn Ther. 2024;46:104085.
5. Glass GE. Photobiomodulation: The Clinical Applications of Low-Level Light Therapy Aesthet Surg J. 2021;41(6):723-38. Correction in: Aesthet Surg J. 2022;42(5):566.
6. American Academy of Dermatology Association. Social media skin care trends: Dermatologists reveal the facts. 2024. Available at: https://www.aad.org/news/social-media-skin-care-trends. Last accessed: June 6, 2025.
7. The New York Times Wirecutter. The best red light therapy skin care devices. 2023. Available at: https://www.nytimes.com/wirecutter/reviews/best-red-light-therapy-skin-care-device/. Last accessed: June 6, 2025.
8. Natasha Barton et al. Red light therapy in cosmetic dermatology: are marketing claims backed by evidence? Poster 72315. AAD Annual Meeting, March 27-31, 2026.
9. Akuffo-Addo E et al. Visible light in the treatment of acne vulgaris. J Cutan Med Surg. 2024;28(6):567-71.
10. Li M et al. A wearable and stretchable dual-wavelength LED device for home care of chronic infected wounds. Nat Commun. 2024;15(1):9380.