

Phototherapy: Is It Still Important?

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Phototherapy has been used to treat skin diseases for millennia. From the Incas to the ancient Greeks and Egyptians, nearly every major civilization has attempted to harness the sun, with some even worshipping it for its healing powers.¹ Today, phototherapy remains as important as ever. Despite the technological advances that have brought about biologic medications, small molecule inhibitors, and elegant vehicle delivery systems, phototherapy continues to be a valuable tool in the dermatologist's armamentarium.

Patient Access to Phototherapy

An important step in successfully managing any disease is access to treatment. In today's health care landscape, therapeutic decisions frequently are dictated by a patient's financial situation as well as by the discretion of payers. Costly medications such as biologics often are not accessible to patients on government insurance who fall into the Medicare "donut hole" and may be denied by insurance companies for a myriad of reasons. Luckily, phototherapy typically is well covered and is even a first-line treatment option for some conditions, such as mycosis fungoides.

Nevertheless, phototherapy also has its own unique accessibility hurdles. The time-consuming nature of office-based phototherapy treatment is the main barrier, and many patients find it difficult to incorporate treatments into their daily lives. Additionally, office-based phototherapy units often are clustered in major cities, making access more difficult for rural patients. Because light-responsive conditions often are chronic and may require a lifetime of treatment, home phototherapy units are now being recognized as cost-effective treatment options and are increasingly covered by insurance. In fact, one study comparing psoriasis patients treated with home narrowband UVB (NB-UVB) vs outpatient NB-UVB found that in-home treatment was equally as effective as office-based treatment at a similar cost.² Because studies comparing the effectiveness of office-based vs home-based phototherapy treatment are underway for various other diseases, hopefully more patients

will be able to receive home units, thus increasing access to safe and effective treatment.

Wide Range of Treatment Indications

Another merit of phototherapy is its ability to be used in almost all patient populations. It is one of the few modalities whose indications span the entire length of the human lifetime—from pediatric atopic dermatitis to chronic pruritus in elderly patients. Phototherapy also is one of the few treatment options that is safe to use in patients with an active malignancy or in patients who have multiple other medical conditions. Comorbidities including congestive heart failure, chronic infections, and demyelinating disorders often prevent the use of oral and injectable medications for immune-mediated disorders such as psoriasis or atopic dermatitis. In patients with multiple comorbidities whose disease remains uncontrolled despite an adequate topical regimen, phototherapy is one of the few effective treatment options that remain. Additionally, there is a considerable number of patients who prefer external treatments for cutaneous diseases. For these patients, phototherapy offers the opportunity to control skin conditions without the use of an internal medication.

Favorable Safety Profile

Phototherapy is a largely benign intervention with an excellent safety profile. Its main potential adverse events include erythema, pruritus, xerosis, recurrence of herpes simplex virus infection, and premature skin aging. The effects of phototherapy on skin carcinogenesis have long been controversial; however, data suggest a clear distinction in risk between treatment with NB-UVB and psoralen plus UVA (PUVA). A systematic review of psoriasis patients treated with phototherapy found no evidence to suggest an increased risk of melanoma or nonmelanoma skin cancer with NB-UVB treatment.³ The same cannot be said for psoriasis patients treated with PUVA, who were noted to have a higher incidence of nonmelanoma skin cancer than the general population. This increased risk was more

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The authors report no conflict of interest.

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substantial in American cohorts than in European cohorts, likely due to multiple factors including variable skin types and treatment regimens. Increased rates of melanoma also were noted in American PUVA cohorts, with no similar increase seen in their European counterparts.³

Broad vs Targeted Therapies

Targeted therapies have dominated the health care landscape over the last few years, with the majority of new medications being highly focused and only efficacious in a few conditions. One of phototherapy's greatest strengths is its lack of specificity. Because the field of dermatology is filled with rare, overlapping, and often poorly understood diseases, nonspecific treatment options are needed to fill the gaps. Many generalized skin conditions may lack treatment options indicated by the US Food and Drug Administration. Phototherapy is the ultimate untargeted intervention and may be broadly used for a wide range of cutaneous conditions. Although classically utilized for atopic dermatitis and psoriasis, NB-UVB also can effectively treat generalized pruritus, vitiligo, urticaria, and seborrheic dermatitis.⁴ Not to be outdone, PUVA has shown success in treating more than 50 different dermatologic conditions including lichen planus, alopecia areata, and mycosis fungoides.⁵ Although highly specific and targeted medications will continue to dominate the innovative dermatology treatment

landscape, broadly effective treatments such as phototherapy will remain effective when disease states stray from their textbook pathophysiology.

Final Thoughts

Phototherapy is a safe, accessible, and widely applicable treatment for a range of cutaneous disorders. Although more precisely engineered internal therapies have begun to replace UV light in psoriasis and atopic dermatitis, phototherapy likely will always remain an ideal treatment for a wide cohort of patients. Between increased access to home units and the continued validation of its excellent safety record, the future of phototherapy is looking bright.

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