

Clinical Policy: Laser Therapy for Skin Conditions

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Date of Last Revision: 03/2023

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Coding Implications

Revision Log

Description

Targeted phototherapy utilizes non-ionizing ultraviolet radiation with therapeutic benefit. Phototherapy is an efficacious local therapy that provides several advantages to traditional and biologic systemic therapies. Excimer lasers are monochromatic 308 nm xenon chloride lasers that are approved to treat certain inflammatory skin diseases. This policy describes the medical necessity requirements for excimer laser based targeted phototherapy.

Policy/Criteria

- I. It is the policy of PA Health & Wellness® that excimer laser based targeted phototherapy is **medically necessary** for the following indications after the failure of topical treatments:
 - A. Localized plaque psoriasis with <10% body surface area (BSA) involvement, individual lesions, or more extensive disease;
 - B. Vitiligo;
 - C. Atopic dermatitis;
 - D. Cutaneous T-cell lymphoma (e.g., mycosis fungoides/ Sézary Syndrome).
- II. It is the policy of health plans affiliated with PA Health & Wellness that the evidence is insufficient to draw conclusions regarding the efficacy of excimer laser targeted phototherapy for the following indications:
 - A. Patients with photosensitivity disorders;
 - B. For the treatment of all other conditions than those specified above.

* It is the policy of PA Health & Wellness® (PHW) that determinations for services that are considered **not medically necessary** must be considered on a case-by-case basis by a physician or ad hoc committee and must be made in accordance with the Benefit Plan Contract provisions and applicable state and federal requirements. Denials will require medical director review.

Background

Targeted phototherapy uses a localized delivery of ultraviolet light to facilitate therapeutic relief of some conditions. Ultraviolet light is predominantly absorbed by skin DNA, leading to the generation of pyrimidine dimers, pyrimidine, and (6-4) photoproducts which are either repaired or marked for arrest or cell death through the cell's checkpoint machinery.⁵ Various spectra of ultraviolet A (UVA) and ultraviolet B (UVB) wavelengths are utilized to treat a varying array of inflammatory skin disorders, including narrowband, broadband, and excimer lasers, as well as combinations of UVA and UVB with topical, systemic, biologic, and chemotherapeutic regimens.¹ Additionally, phototherapy is cost effective and avoids the immunosuppressive effects that often accompany traditional and biologic based systemic therapies.

Excimer lasers are monochromatic 308nm xenon chloride lasers that provide a safe and selective approach to treating dermatological conditions. Excimer lasers are associated with significant T-cell depletion, alterations in apoptosis-related molecules, reductions in proliferation indices, and immunomodulatory mechanisms.⁶ An early study by Feldman *et al* assessed the efficacy of excimer lasers for the treatment of mild to moderate psoriasis in a multicenter study. The authors noted that 84% of the patients reached the primary outcome of at least 75% improvement of their plaques within 1 month.⁷ Another study by Rodewald *et al* compared the excimer laser to a non-intervention, placebo cohort, as well as other standard topical treatments for psoriasis.⁸ The laser and topical calcipotriene had similar efficacies but both were more effective than topical tazarotene or fluocinonide and the time to achieve 75% improvement favored the excimer laser.⁸ Therefore, laser was comparable to or more effective than other standard treatments for psoriasis.⁸

According to a joint updated guideline from the American Academy of Dermatology, National Psoriasis Foundation, the excimer laser is recommended for use in adults with localized plaque psoriasis (including palmoplantar psoriasis) <10% BSA, for individual lesions, or in patients with more extensive disease (recommendation based on consistent, good quality patient oriented evidence.) Excimer laser is also recommended in the treatment of scalp psoriasis in adults (based on inconsistent or limited-quality patient-oriented evidence.)¹³

The initial treatment dose of the excimer laser depends on the individual's skin type, plaque characteristics, and thickness, with subsequent doses adjusted in accordance to the patient's clinical response and side effects.^{1,13} Treatment takes place two to three times per week until a patient is clear of symptoms. According to a separate guideline on children from the American Academy of Dermatology, National Psoriasis Foundation, excimer laser may be used in children with psoriasis and may be efficacious and well tolerated, but these options have limited supporting evidence.¹⁴

The European Dermatology Forum and the British Association of Dermatologists provide guidelines for the management of vitiligo.^{3,4} The consensus of the European Dermatology Forum is that targeting phototherapy should be indicated for localized vitiligo and for small lesion of recent onset and childhood vitiligo.³ Notably, Alhowaish *et al* documented the effectiveness of excimer laser treatments in vitiligo in 23 separate articles that included case studies, randomized controlled studies, retrospective analyses, randomized blinded studies, and controlled comparative studies.⁹ Although the response time and the duration of response varied, the excimer laser therapy was generally effective across all of the studies.⁹ While several treatment options are available for vitiligo, targeted laser therapy delivers high intensity light to the desired depigmented area to avoid exposure to surrounding neighboring healthy skin.¹⁷

Atopic dermatitis (eczema) is a chronic, pruritic, inflammatory skin disease with clinical presentation of dry skin, severe pruritus and cutaneous hyperreactivity to various environmental stimuli. Skin hydration with emollients and moisturizers is a key component of first-line therapy. Other topical treatments, i.e., anti-inflammatory therapy with topical corticosteroids or calcineurin inhibitors can be effective in controlling pruritus. When topical therapy alone is not enough, narrowband ultraviolet B (NB-UVB) or ultraviolet A1 (UVA1) phototherapy can be added. Patients with moderate to severe disease despite topical therapy may require systemic

treatment such as dupilumab. Narrowband ultraviolet B (NBUVB) phototherapy is also an alternative. However, phototherapy is not suitable for infants and young children. Phototherapy can be administered in the office two to three times weekly.

Mycosis fungoides (MF) and Sézary syndrome (SS) are common subtypes of cutaneous T cell lymphoma (CTCL). MF is a mature T cell non-Hodgkin lymphoma that presents in the skin but has potential involvement of the lymph nodes, blood, and viscera. Skin lesions include patches or plaques, localized or widespread, along with tumors, and erythroderma. SS is an inflammatory skin disease with leukemic involvement by malignant T cells. Diagnosis of both MF and SS is made through skin biopsy, blood studies or nodal biopsy.

The TNMB systems is the standard method for staging MF and SS. The TNMB staging is based on evaluation of skin (T), lymph node (N), visceral (M), and blood (B). For MF, early stages (IA to IIA) consist of papules, patches, or plaques, with limited, if any, lymph node involvement and no visceral involvement. Skin-directed therapies can include topical corticosteroids, mechlorethamine, retinoids, imiquimod, localized radiation, or phototherapy (narrowband ultraviolet B [NBUVB] or psoralen plus ultraviolet A [PUVA]).²⁴ SS Stage IVA1 involves no significant lymph node or visceral involvement, Stage IVA2 is demonstrated by lymph node involvement, but no visceral involvement and Stage IVB includes visceral involvement, with or without nodal involvement. Although no standard initial therapy for patients with SS, systemic therapy can be given alone, with skin directed therapy, or with other systemic therapies.²⁵

The NCCN recommends skin-directed therapies as above, used alone or in combination of other skin-directed therapies, dependent upon limited/localized skin involvement or generalized skin involvement.²²

Coding Implications

This clinical policy references Current Procedural Terminology (CPT®). CPT® is a registered trademark of the American Medical Association. All CPT codes and descriptions are copyrighted 2022, American Medical Association. All rights reserved. CPT codes and CPT descriptions are from the current manuals and those included herein are not intended to be all-inclusive and are included for informational purposes only. Codes referenced in this clinical policy are for informational purposes only. Inclusion or exclusion of any codes does not guarantee coverage. Providers should reference the most up-to-date sources of professional coding guidance prior to the submission of claims for reimbursement of covered services.

| CPT® Codes | Description |
|------------|--|
| 96920 | Laser treatment for inflammatory skin disease (psoriasis); total area less than 250 sq. cm |
| 96921 | Laser treatment for inflammatory skin disease (psoriasis); 250 sq. cm to 500 sq. cm |
| 96922 | Laser treatment for inflammatory skin disease (psoriasis); over 500 sq. cm |

ICD-10-CM Diagnosis Codes that Support Coverage Criteria

| ICD-10-CM Code | Description |
|----------------|--|
| L20.81 | Atopic neurodermatitis |
| L20.82 | Flexural eczema |
| L20.84 | Intrinsic (allergic) eczema |
| L20.89 | Other atopic dermatitis |
| L40.0 | Psoriasis vulgaris (plaque psoriasis) |
| L80 | Vitiligo |
| C84.00 | Mycosis fungoides, unspecified site |
| C84.01 | Mycosis fungoides, lymph nodes of head, face, and neck |
| C84.02 | Mycosis fungoides, intrathoracic lymph nodes |
| C84.03 | Mycosis fungoides, intra-abdominal lymph nodes |
| C84.04 | Mycosis fungoides, lymph nodes of axilla and upper limb |
| C84.05 | Mycosis fungoides, lymph nodes of inguinal region and lower limb |
| C84.06 | Mycosis fungoides, intrapelvic lymph nodes |
| C84.07 | Mycosis fungoides, spleen |
| C84.08 | Mycosis fungoides, lymph nodes of multiple sites |
| C84.09 | Mycosis fungoides, extranodal and solid organ sites |
| C84.10 | Sezary disease, unspecified site |
| C84.11 | Sezary disease, lymph nodes of head, face, and neck |
| C84.12 | Sezary disease, intrathoracic lymph nodes |
| C84.13 | Sezary disease, intra-abdominal lymph nodes |
| C84.14 | Sezary disease, lymph nodes of axilla and upper limb |
| C84.15 | Sezary disease, lymph nodes of inguinal region and lower limb |
| C84.16 | Sezary disease, intrapelvic lymph nodes |
| C84.17 | Sezary disease, spleen |
| C84.18 | Sezary disease, lymph nodes of multiple sites |
| C84.19 | Sezary disease, extranodal and solid organ sites |

| Reviews, Revisions, and Approvals | Revision Date | Approval Date |
|--|---------------|---------------|
| Policy developed. | 09/17 | |
| References reviewed and updated. | 09/18 | |
| References reviewed and updated. Specialist review. | 10/19 | |
| Revised indication from “Mild, moderate, or severe psoriasis with < 10% body surface area (BSA) involvement” to “Localized plaque psoriasis <10% body surface area (BSA) involvement, individual lesions, or with more extensive disease.” Background updated with recent guidelines from AAD. References reviewed and updated. | 10/2020 | 12/7/2020 |
| Annual review. “Experimental/investigational” verbiage replaced in policy statement with “evidence is insufficient to draw conclusions.” Replaced all instances of “member” with “member/enrollee.” Coding reviewed. References reviewed and reformatted. Changed “review date” in the header to “date of last revision” and “date” in the revision log header to “revision date.” | 9/29/2021 | |

| Reviews, Revisions, and Approvals | Revision Date | Approval Date |
|---|---------------|---------------|
| Annual review. Background updated with no impact to policy statement. Specialist reviewed. References reviewed and updated. | 03/23 | |
| Annual review. Added medically necessary indications I.C. atopic dermatitis and I.D. cutaneous T-cell lymphoma. Removed II.B. atopic dermatitis from insufficient evidence section. Added codes L20.81, L20.82, L20.89, C84.00 through C84.09, and C84.10 through C84.19 to table of ICD-10-CM diagnosis codes that support coverage criteria. References reviewed and updated. | 03/23 | 07/2023 |

References

1. Menter A, Korman NJ, Elmets CA, et al. Guidelines of care for the management of psoriasis and psoriatic arthritis: Section 5. Guidelines of care for the treatment of psoriasis with phototherapy and photochemotherapy [published correction appears in *J Am Acad Dermatol*. 2021 Feb;84(2):586]. *J Am Acad Dermatol*. 2010;62(1):114-135. Doi:10.1016/j.jaad.2009.08.026
2. Sidbury R, Davis DM, Cohen DE, et al. Guidelines of care for the management of atopic dermatitis: section 3. Management and treatment with phototherapy and systemic agents. *J Am Acad Dermatol*. 2014;71(2):327-349. Doi:10.1016/j.jaad.2014.03.030
3. Gawkrödger DJ, Ormerod AD, Shaw L, et al. Guideline for the diagnosis and management of vitiligo. *Br J Dermatol*. 2008;159(5):1051-1076. Doi:10.1111/j.1365-2133.2008.08881.x.
4. Taieb A, Alomar A, Böhm M, et al. Guidelines for the management of vitiligo: the European Dermatology Forum consensus. *Br J Dermatol*. 2013;168(1):5-19. Doi:10.1111/j.1365-2133.2012.11197.x.
5. Feldman, SR. Targeted phototherapy. UpToDate. www.uptodate.com. Updated November 16, 2022. Accessed February 16, 2023.
6. Specchio F, Carboni I, Carnnarozzo G, Tamburi F, Dattola E, Nistico S. Excimer UV radiation in dermatology. *Int J Immunopathol Pharmacol*. 2014;27(2):287-289. Doi: 10.1177/039463201402700217.
7. Feldman, SR, Mellen BG, Housman TS, et al. Efficacy of the 308-nm excimer laser for treatment of psoriasis: results of a multicenter study. *J the Am Acad of Dermatol*. 2002; 46(6):900-906. Doi:10.1067/mjd.2002.120454.
8. Rodewald EJ, Housman TS, Mellen BG, Feldman SR. The efficacy of 308nm laser treatment of psoriasis compared to historical controls. *Dermatol Online J*. (2001);7(2):4.
9. Alhowaish, AK, Dietrich N, Onder M, Fitz K. Effectiveness of a 308-nm excimer laser in treatment of vitiligo: a review. *Lasers Med Sci*. 2013;28(3):1035-1041. Doi: 10.1007/s10103-012-1185-1.
10. Grimes PE. Vitiligo: Management and prognosis. UpToDate. www.uptodate.com. Updated November 29, 2022. Accessed February 16, 2023.
11. Salah Eldin MM, Sami NA, Aly DG, Hanafy NS. Comparison between (311-312 nm) Narrow Band Ultraviolet-B Phototherapy and (308 nm) Monochromatic Excimer Light Phototherapy in Treatment of Vitiligo: A Histopathological Study. *J Lasers Med Sci*. 2017;8(3):123-127. Doi:10.15171/jlms.2017.22.
12. Comparative effectiveness review of laser therapy for psoriasis. Hayes. www.hayesinc.com. Published April 25, 2019 (annual review April 7, 2022). Accessed February 16, 2023.

13. Elmetts CA, Lim HW, Stoff B, et al. Joint American Academy of Dermatology-National Psoriasis Foundation guidelines of care for the management and treatment of psoriasis with phototherapy [published correction appears in *J Am Acad Dermatol.* 2020 Mar;82(3):780]. *J Am Acad Dermatol.* 2019;81(3):775-804. Doi:10.1016/j.jaad.2019.04.042
14. Menter A, Cordoro KM, Davis DMR, et al. Joint American Academy of Dermatology, National Psoriasis Foundation guidelines of care for the management and treatment of psoriasis in pediatric patients [published correction appears in *J Am Acad Dermatol.* 2020 Mar;82(3):574]. *J Am Acad Dermatol.* 2020;82(1):161-201. Doi:10.1016/j.jaad.2019.08.049
15. Paller AS, Lund EB. Psoriasis in children: Management of chronic plaque psoriasis. UpToDate. www.uptodate.com. Updated August 31, 2022. Accessed February 16, 2023.
16. Feldman SR. Treatment of Psoriasis in Adults. UpToDate. www.uptodate.com. Updated October 12, 2022. Accessed February 16, 2023.
17. Kuroda Y, Yang L, Lai S, et al. A Lower Irradiation Dose of 308 nm Monochromatic Excimer Light Might Be Sufficient for Vitiligo Treatment: A Novel Insight Gained from In Vitro and In Vivo Analyses. *International Journal of Molecular Sciences.* 2021;22(19):10409. <https://doi.org/10.3390/ijms221910409>
18. Nicolaidou E, Antoniou C, Stratigos A, Katsambas AD. Narrowband ultraviolet B phototherapy and 308-nm excimer laser in the treatment of vitiligo: a review. *J Am Acad Dermatol.* 2009;60(3):470-477. doi:10.1016/j.jaad.2008.07.053
19. Sung JM, Bae JM, Kang HY. Comparison of cyclic and continuous 308-nm excimer laser treatments for vitiligo: A randomized controlled noninferiority trial. *J Am Acad Dermatol.* 2018;78(3):605-607.e1. doi:10.1016/j.jaad.2017.09.048
20. Elsaadany AE, El-Khalawany M, Elshahid AR, Seddeik Abdel-Hameed AK. Comparison between 308-nm excimer light alone versus 308-nm excimer light and platelet-rich plasma in the treatment for localized vitiligo. *J Cosmet Dermatol.* 2022;21(7):2826-2831. doi:10.1111/jocd.14582
21. National coverage determination: treatment of psoriasis (250.1). Centers for Medicare and Medicaid Services Web site. <https://www.cms.gov/medicare-coverage-database/view/ncd.aspx?NCDId=88&ncdver=1&>. Accessed February 16, 2023.
22. National Comprehensive Cancer Network. NCCN Clinical Practice Guidelines on Oncology: Primary Cutaneous Lymphomas. Version 1.2023. <https://www.nccn.org/home>. Published January 5, 2023. Accessed February 21, 2023.
23. Howe M. Treatment of atopic dermatitis (eczema). UpToDate. www.uptodate.com. Updated February 7, 2023. Accessed February 22, 2023.
24. Hoppe RT, Kim TH, Horwitz S. Treatment of early stage (IA to IIA) mycosis fungoides. UpToDate. www.uptodate.com. Updated January 9, 2023. Accessed February 22, 2023.
25. Kim EJ, Rook AH. Treatment of Sézary syndrome. UpToDate. www.uptodate.com. Updated January 20, 2022. Accessed February 22, 2023.