

Subject: Phototherapy, Photochemotherapy and Laser Therapy for Dermatological Conditions		Original Effective Date: 11/20/08
Policy Number: MCR-292	Revision Date(s): 6/12/14, 1/25/2017	
Combines MCR-057-058-059-060	This MCR is no longer schee	duled for revisions.
Review Date: 10/26/11, 12/16/15, 6/15/1	6, 3/8/18, 6/19/19, 4/23/20, 4/5/21	
MCPC Approval Date: 3/8/18, 6/19/19,	4/23/20, 4/5/21	
Contents DISCLAIMER Description of Procedure/Service/Pharmaceutic		
Initial Criteria.		
Frequency and Number of Treatments		
_imitations		3
Summary of Medical Evidence		3
Coding Information		4
Resource References		4
Revision/Review History		8

DISCLAIMER

This Molina Clinical Review (MCR) is intended to facilitate the Utilization Management process. It expresses Molina's determination as to whether certain services or supplies are medically necessary, experimental, investigational, or cosmetic for purposes of determining appropriateness of payment. The conclusion that a particular service or supply is medically necessary does not constitute a representation or warranty that this service or supply is covered (i.e., will be paid for by Molina) for a particular member. The member's benefit plan determines coverage. Each benefit plan defines which services are covered, which are excluded, and which are subject to dollar caps or other limits. Members and their providers will need to consult the member's benefit plan to determine if there are any exclusion(s) or other benefit limitations applicable to this service or supply. If there is a discrepancy between this policy and a member's plan of benefits, the benefits plan will govern. In addition, coverage may be mandated by applicable legal requirements of a State, the Federal government or CMS for Medicare and Medicaid members. CMS's Coverage Database can be found on the CMS website. The coverage directive(s) and criteria from an existing National Coverage Determination (NCD) or Local Coverage Determination (LCD) will supersede the contents of this Molina Clinical Review (MCR) document and provide the directive for all Medicare members.¹

DESCRIPTION OF PROCEDURE/SERVICE/PHARMACEUTICAL

Phototherapy/Actinotherapy is used to treat various dermatological skin conditions and has been defined by the American Academy of Dermatology as "exposure to nonionizing radiation for therapeutic benefit. Treatment



includes actinotherapy, type A ultraviolet (UVA) radiation; type B ultraviolet (UVB) radiation; and combination UVA/UVB radiation.

Photochemotherapy (PUVA) is the therapeutic use of radiation in combination with a photosensitizing chemical for various skin conditions. It currently involves the use of psoralens (typically oral or topical) prior to exposure to UVA radiation. Treatment with these modalities may involve partial or whole-body exposure and includes psoralens (P) and type A ultraviolet (UVA) radiation, known as PUVA photochemotherapy and combinations of P/UVA/UVB.

Excimer Laser uses a highly concentrated beam of ultraviolet light that provides targeted delivery of UV exposure to specific vitiligo patches or spots. The targeted delivery prevents exposure of adjacent skin to UV light.

INITIAL CRITERIA 4-8 55

- 1. Office-based phototherapy and photochemotherapy may be considered medically necessary when all of the following criteria are met: [ALL]
 - Diagnosis of any of the following conditions: [ONE]
 - atopic dermatitis (i.e., atopic eczema)
 - connective tissue diseases involving the skin (e.g., cutaneous graft vs. host disease
 [GVHD], localized scleroderma, lupus erythematosus)
 - o cutaneous T-cell lymphoma (CTCL) (e.g., mycosis fungoides)
 - lichen planus
 - photodermatoses (e.g., polymorphic light eruption, actinic prurigo, chronic actinic dermatitis)
 - o psoriasis

AND

- □ Clinical documentation of inadequate symptom control, intolerance or contraindication to conventional medical management that may include any of the following as applicable:
 - Biological agents
 - Diet restrictions
 - Oral immunosuppressant's
 - Stress management
 - Topical and oral steroids
 - Topical ointments or creams
- 2. Topical targeted phototherapy (excimer laser) may be considered medically necessary when all of the following criteria are met: [ALL]
 - Diagnosis of localized, plaque psoriasis

AND



- □ Clinical documentation of inadequate symptom control, intolerance or contraindication to conventional medical management that includes any of the following: [ONE]
 - o topical agents; or
 - phototherapy

FREQUENCY AND NUMBER OF TREATMENTS 4-8

- 1. <u>*Phototherapy (UVA or UVB)*</u> with or without topical preparations may be authorized when the above criteria is met for phototherapy as follows:
 - Three times per week for up to 12 weeks have shown to be effective. Documentation is required after the initial 12 weeks to determine if any improvement has occurred. Approval of additional treatments after the initial 12 weeks trial requires documentation of significant improvement for ongoing authorization.
- 2. <u>*Psoralen with Ultraviolet A (PUVA)*</u> may be authorized when the above criteria is met for PUVA as follows:
 - □ Three times per week for up to 15 treatments have shown to be effective. Documentation is required after 15 treatments to determine if any improvement has occurred. Treatments beyond the initial 15 require documentation for necessity.
- 3. <u>Topical targeted phototherapy (excimer laser)</u> may be authorized when the above criteria is met for laser as follows:
 - □ 2 to 3 times a week for up to 12 treatments. Documentation is required after 12 treatments to determine medical necessity for continued treatment.
- 4. <u>Home UVB phototherapy (Ultraviolet light only)</u> may be considered medically necessary under the direction of a physician for the treatment of when the above criteria is met for phototherapy and: [ALL]
 - $\hfill\square$ In patients who are unable to receive phototherapy in an office setting; or
 - □ For those patients that have difficulty in maintaining frequent office visits due to their medical condition or considerable distance in travel from home to office (e.g.>45 minutes one way)

LIMITATIONS 4-8 55

- Phototherapy, photochemotherapy or excimer laser therapy are considered not medically necessary for any other condition
- PUVA or oral phototherapy treatment is contraindicated in children under age 12 and pregnant or breast feeding women
- □ Home UV phototherapy is considered NOT medically necessary for patients who need maintenance courses of outpatient UV phototherapy every 6 months, with 3-6 months of clearance in between.

SUMMARY OF MEDICAL EVIDENCE 9-54

The peer-reviewed published medical literature, including randomized controlled trials, systematic reviews, clinical trials and case series, as well as professional societies and organizations support the safety and effectiveness of phototherapy and photochemotherapy for the treatment of atopic dermatitis, connected tissue diseases involving the skin, cutaneous T-cell lymphoma, lichen planus, photodermatoses, and psoriasis for



patients who have inadequate symptom control, do not tolerate or are unresponsive to conventional medical management.

The peer-reviewed published medical literature, including randomized controlled trials, systematic reviews, clinical trials and case series, as well as professional societies and organizations support the safety and effectiveness of excimer laser therapy for the treatment of psoriasis in patients who are unresponsive to topical agents or phototherapy. There are a limited number of studies evaluating laser therapy for the treatment of atopic dermatitis and other conditions. Studies are primarily in the form of case series or retrospective reviews with small patient populations and short-term follow-ups.

CODING INFORMATION: THE CODES LISTED IN THIS POLICY ARE FOR REFERENCE PURPOSES ONLY. LISTING OF A SERVICE OR DEVICE CODE IN THIS POLICY DOES NOT IMPLY THAT THE SERVICE DESCRIBED BY THIS CODE IS A COVERED OR NON-COVERED. COVERAGE IS DETERMINED BY THE BENEFIT DOCUMENT. THIS LIST OF CODES MAY NOT BE ALL INCLUSIVE.

СРТ	Description	
96900	Actinotherapy (ultraviolet light)	
96910	Photochemotherapy; tar and ultraviolet B (Goeckerman treatment) or petrolatum and ultraviolet B	
96912	Photochemotherapy; psoralens and ultraviolet A (PUVA)	
96913	Photochemotherapy (Goeckerman and/or PUVA) for severe photoresponsive dermatoses requiring	
	at least four to eight hours of care under direct supervision of the physician (includes application of	
	medication and dressings)	
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	

HCPCS	Description (Home Therapy Devices)	
E0691	Ultraviolet light therapy system panel, includes bulbs/lamps, timer, and eye protection; treatment	
	area 2 sq. ft. or less	
E0692	Ultraviolet light therapy system panel, includes bulbs/lamps, timer, and eye protection, 4 ft. panel	
E0693	Ultraviolet light therapy system panel, includes bulbs/lamps, timer, and eye protection, 6 ft. panel	
E0694	Ultraviolet multidirectional light therapy system in 6 ft. cabinet, includes bulbs/lamps, timer, and	
	eye protection	

RESOURCE REFERENCES

Government Agency

- 1. Centers for Medicare and Medicaid Services. National Coverage Determinations (NCDs). Accessed at: <u>https://www.cms.gov/medicare-coverage-database/new-search/search.aspx</u>
- 2. Food and Drug Administration (FDA) [website]. Center for Devices and Radiological Health (CDRH). Accessed at: <u>http://www.accessdata.fda.gov/scripts/cdrh/cfdocs/cfPMN/pmn.cfm</u>



3. Agency for Healthcare Research and Quality (AHRQ). Effective Health Care Program. Comparative effectiveness review number 85. Biologic and Nonbiologic Systemic Agents and Phototherapy for Treatment of Chronic Plaque Psoriasis. Nov 2012.

Professional Society Guidelines

- National Institute for Health and Clinical Excellence (NICE). Psoriasis: the assessment and management of psoriasis. London (UK): National Institute for Health and Clinical Excellence (NICE); 2012 Oct. 61 p. (NICE clinical guideline; no. 153). Accessed at: <u>https://www.nice.org.uk/guidance/cg153/evidence/full-guideline-pdf-188351533</u>
- 5. Scottish Intercollegiate Guidelines Network (SIGN). Diagnosis and management of psoriasis and psoriatic arthritis in adults. A national clinical guideline. Edinburgh (Scotland): Scottish Intercollegiate Guidelines Network (SIGN); 2010 Oct. 65 p. (SIGN publication; no. 121).
- 6. Menter A, Korman NJ, Elmets CA, Feldman SR, Gelfand JM, Gordon KB, Gottlieb A, Koo JY, Lebwohl M, Lim HW, Van Voorhees AS, Beutner KR, Bhushan R. 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. J Am Acad Dermatol. 2010 Jan;62(1):114-35.
- 7. Schneider L, Tilles S et al. Atopic dermatitis: A practice parameter update 2012. The Joint Task Force on Practice Parameters, representing the American Academy of Allergy, Asthma & Immunology (AAAAI); the American College of Allergy, Asthma & Immunology (ACAAI); and the Joint Council of Allergy, Asthma and Immunology. J Allergy Clin Immunol 2013;131:295-9. Accessed at: <u>https://www.aaaai.org/Aaaai/media/MediaLibrary/PDF%20Documents/Practice%20and%20Parameters/Ato pic-dermatitis-2013.pdf</u>
- Sidbury R, et al; American Academy of Dermatology. Guidelines of care for the management of atopic dermatitis: section 3. Management and treatment with phototherapy and systemic agents. J Am Acad Dermatol 2014 Aug;71(2):327-49. Accessed at: <u>https://www.aad.org/practicecenter/quality/clinical-guidelines/atopic-dermatitis</u>

Peer Reviewed Literature

- 9. Abd El-Samad Z(1), Shaaban D. Treatment of localized non-segmental vitiligo with intradermal 5flurouracil injection combined with narrow-band ultraviolet B: a preliminary study. J Dermatolog Treat. 2012 Dec;23(6):443-8.
- Al-Mutairi N(1), Noor T, Al-Haddad A. Single Blinded Left-to-Right Comparison Study of Excimer Laser Versus Pulsed Dye Laser for the Treatment of Nail Psoriasis. Dermatol Ther (Heidelb). 2014 Dec;4(2):197-205. doi: 10.1007/s13555-014-0057-y. Epub 2014 Jul 3
- Almutawa F, Alnomair N et al. Systematic review of UV-based therapy for psoriasis. Am J Clin Dermatol. 2013 Apr;14(2):87-109.
- 12. Babilas P, Schreml S et al. Intense pulsed light (IPL): a review. Lasers Surg Med. 2010 Feb;42(2):93-104.
- 13. Bailey EE, Ference EH et al. Combination treatments for psoriasis: a systematic review and meta-analysis. Arch Dermatol. 2012 Apr;148(4):511-22.
- 14. Brenninkmeijer EE, Spuls PI, Lindeboom R, van der Wal AC, Bos JD, Wolkerstorfer A. Excimer laser vs. clobetasol propionate 0.05% ointment in prurigo form of atopic dermatitis: a randomized controlled trial, a pilot. Br J Dermatol. 2010 Oct;163(4):823-31.
- 15. Buense R, Duarte IA, Bouer M. Localized scleroderma: assessment of the therapeutic response to phototherapy. An Bras Dermatol. 2012 Jan-Feb;87(1):63-9.



- 16. Chen X, et al. Narrow-band ultraviolet B phototherapy versus broad-band ultraviolet B or psoralenultraviolet A photochemotherapy for psoriasis. Cochrane Database Syst Rev. 2013 Oct 23;10:CD009481.
- 17. Clayton TH, Clark SM, Turner D et al The treatment of severe atopic dermatitis in childhood with narrowband ultraviolet B phototherapy. Clin Exp Dermatology 2007 Jan;32(1):28-33.
- 18. Eichenfield LF, Wynnis LT et al. American Academy of Dermatology Guidelines of care for the management of atopic dermatitis. Section 1: Diagnosis and assessment of atopic dermatitis. 2013. Accessed at: <u>http://www.aad.org/education/clinical-guidelines</u>
- 19. El-Zawahry BM, Bassiouny DA, Sobhi RM et al. A comparative study on efficacy of UVA1 vs. narrowband UVB phototherapy in the treatment of vitiligo. Photodermatol Photoimmunol Photomed. 2012 Apr;28(2):84-90
- 20. Erceg A, de Jong EM et al. The efficacy of pulsed dye laser treatment for inflammatory skin diseases: a systematic review. J Am Acad Dermatol. 2013 Oct;69(4):609-615.e8.
- Farnaghi F, Seirafi H, Ehsani AH, Agdari ME, Noormohammadpour P. Comparison of the therapeutic effects of narrow band UVB vs. PUVA in patients with pityriasis lichenoides. J Eur Acad Dermatol Venereol. 2011 Aug;25(8):913-6.
- Franken SM(1), Witte B, Pavel S, Rustemeyer T. Psoriasis and daily low-emission phototherapy: effects on disease and vitamin D level. Photodermatol Photoimmunol Photomed. 2015 Mar;31(2):83-9. doi: 10.1111/phpp.12151. Epub 2014 Dec 3.
- Garritsen FM, Brouwer MW, Limpens J, Spuls PI. Photo(chemo)therapy in the management of atopic dermatitis: an updated systematic review with implications for practice and research. Br J Dermatol 2014; 170:501.
- 24. Haedersdal M, Togsverd-Bo K, Wiegell SR, Wulf HC. Long-pulsed dye laser versus long-pulsed dye laserassisted photodynamic therapy for acne vulgaris: A randomized controlled trial. J Am Acad Dermatol. 2008b Mar;58(3):387-94.
- 25. Haedersdal M, Togsverd-Bo K, Wulf HC. Evidence-based review of lasers, light sources and photodynamic therapy in the treatment of acne vulgaris. 2008. J Euro Acad of Dermatol Venereol, 22:267-278.
- 26. Hallaji Z(1), Ghiasi M, Eisazadeh A, Damavandi MR. Evaluation of the effect of disease duration in generalized vitiligo on its clinical response to narrowband ultraviolet B phototherapy. Photodermatol Photoimmunol Photomed. 2012 Jun;28(3):115-9. doi: 10.1111/j.1600-0781.2012.00648.x.
- 27. Hamilton FL, Car J, Lyons C, Car M, Layton A, Majeed A Laser and other light therapies for the treatment of acne vulgaris: systematic review. Br J Dermatol. 2009 Jun;160(6):1273-85. Epub 2009 Feb 23.
- 28. Hoare C, Po A, Williams H. Systematic review of treatments for atopic eczema. Health Technology Assessment NHS R &D HTA Programme. Accessed at: <u>http://www.ncbi.nlm.nih.gov/pubmed/11134919</u>
- 29. Higgins E, Ralph N, Ryan S, et al. A randomised half body prospective study of low and medium dose regimens using the 308 nm excimer laser in the treatment of localised psoriasis. J Dermatolog Treat. 2016 Sep 29:1-6. [Epub ahead of print]
- 30. Ingram JR, Grindlay DJ, Williams HC. Management of acne vulgaris: an evidence-based update. Clin Exp Dermatol. 2010 Jun;35(4):351-4.
- 31. Karsai S, Schmitt L, Raulin C. The pulsed-dye laser as an adjuvant treatment modality in acne vulgaris: a randomized controlled single-blinded trial. Br J Dermatol. 2010 Aug;163(2):395-401. Epub 2010 Apr 15.
- 32. Leheta TM. Role of the 585-nm pulsed dye laser in the treatment of acne in comparison with other topical therapeutic modalities. J Cosmet Laser Ther. 2009 Jun;11(2):118-24.
- 33. Levin E(1), Nguyen CM(2), Danesh MJ(1). An open label pilot study of supraerythemogenic excimer laser in combination with clobetasol spray and calcitriol ointment for the treatment of generalized plaque psoriasis. J Dermatolog Treat. 2015 Sep 28:1-4. [Epub ahead of print].



- 34. Lui H, Gulliver W, Tan J et al. A randomized controlled study of combination therapy with alefacept and narrow band UVB phototherapy (UVB) for moderate to severe psoriasis: efficacy, onset, and duration of response. J Drugs Dermatol. 2012 Aug;11(8):929-37.
- 35. Meduri NB, Vandergriff T, Rasmussen H. et al. Phototherapy in the management of atopic dermatitis: a systematic review. Photodermatology Photimmuno Photomed. 2007 Aug 23(4):106-12.
- 36. Nordal EJ(1), Guleng GE, Rönnevig JR. Treatment of vitiligo with narrowband-UVB (TL01) combined with tacrolimus ointment (0.1%) vs. placebo ointment, a randomized right/left double-blind comparative study. J Eur Acad Dermatol Venereol. 2011 Dec;25(12):1440-3. doi: 10.1111/j.1468-3083.2011.04002.x. Epub 2011 Apr 6.
- 37. Orringer JS, Sachs DL, Bailey E, Kang S, Hamilton T, Voorhees JJ. Photodynamic therapy for acne vulgaris: a randomized, controlled, split-face clinical trial of topical aminolevulinic acid and pulsed dye laser therapy. J Cosmet Dermatol. 2010 Mar;9(1):28-34.
- 38. Ozkan I, Köse O et al. Efficacy and safety of non-laser, targeted UVB phototherapy alone and in combination with psoralen gel or calcipotriol ointment in the treatment of localized, chronic, plaque-type psoriasis. Int J Dermatol. 2012 May;51(5):609-13.
- 39. Paul C, Gallini A, Archier E, Castela E et al. Evidence-based recommendations on topical treatment and phototherapy of psoriasis: systematic review and expert opinion of a panel of dermatologists. J Eur Acad Dermatol Venereol. 2012 May;26 Suppl 3:1-10.
- 40. Pavlotsky F, Nathansohn N, Kriger G, Shpiro D, Trau H. Ultraviolet-B treatment for cutaneous lichen planus: our experience with 50 patients. Photodermatol Photoimmunol Photomed. 2008 Apr;24(2):83-6.
- 41. Ponte P, Serrão V, Apetato M. Efficacy of narrowband UVB vs. PUVA in patients with early-stage mycosis fungoides. J Eur Acad Dermatol Venereol. 2010 Jun;24(6):716-21.
- 42. Riddle CC, Terrell SN, Menser MB et al. A review of photodynamic therapy (PDT) for the treatment of acne vulgaris. J Drugs Dermatol. 2009 Nov;8(11):1010-9.
- 43. Rubegni P, Poggiali S, Cevenini G, et al. Long term follow-up results on severe recalcitrant atopic dermatitis treated with extracorporeal photochemotherapy. J Eur Acad Dermatol Venereol 2013; 27:523.
- 44. Sami NA, Attia AT, Badawi AM. Phototherapy in the treatment of acne vulgaris. J Drugs Dermatol. 2008 Jul;7(7):627-32.
- 45. Sapam R, Agrawal S, Dhali TK. Systemic PUVA vs. narrowband UVB in the treatment of vitiligo: a randomized controlled study. Int J Dermatol. 2012 Sep;51(9):1107-15.
- 46. Schmitt J, Langan S, Deckert S, et al. Assessment of clinical signs of atopic dermatitis: a systematic review and recommendation. J Allergy Clin Immunol 2013; 132:1337.
- 47. Sun Y, et al. Treatment of 308-nm excimer laser on vitiligo: A systemic review of randomized controlled trials. J Dermatolog Treat 2015 Aug;26(4):347-53.
- 48. Tzaneva S, Kittler H, Holzer G, Reljic D, Weber M, Hönigsmann H, Tanew A. 5-Methoxypsoralen plus ultraviolet (UV) A is superior to medium-dose UVA1 in the treatment of severe atopic dermatitis: a randomized crossover trial. Br J Dermatol. 2010 Mar;162(3):655-60.
- 49. Verhaeghe E, Lodewick E et al. Intrapatient comparison of 308-nm monochromatic excimer light and localized narrow-band UVB phototherapy in the treatment of vitiligo: a randomized controlled trial. Dermatology. 2011;223(4):343-8.
- 50. Whitton ME, et al. Interventions for vitiligo. Cochrane Database Syst Rev. 2015 Feb 24;2:CD003263.
- 51. Whitton ME, Pinart M, Batchelor J et al. Interventions for vitiligo. Cochrane Database Syst Rev. 2010 Jan 20;(1):CD003263.
- 52. Xiao BH, et al. Treatment of vitiligo with NB-UVB: A systematic review. J Dermatolog Treat 2015 Aug;26(4):340-6.



- 53. Yones SS, Palmer RA, Garibaldinos et al. Randomized double-blind trial of the treatment of chronic plaque psoriasis. Arch Dermatology July, 2006;142:836-842.
- 54. Yones SS, Palmer RA, Garibaldinos TM et al. Randomized double blind trial of treatment of vitiligo: efficacy of psoralen UVA therapy vs. narrowband UVB therapy. Arch Dermatology 143(5):578-84. May, 2007.

Other Resources

- 55. Hayes A TractManager Company: [website]:
 - HTA: Phototherapy for acne vulgaris. January 2013. [archived 2014]
 - HTA: Ultraviolet B Phototherapy for Vitiligo. Feb 26, 2010. Updated Feb 24, 2014, [archived 2015]
 - HTA: Laser Therapy for Psoriasis. Nov 19, 2013. Last update 10/16.
 - EARB: Home Ultraviolet B Phototherapy for Psoriasis. July, 2020.
 - Search & Summary. Ultraviolet Light B (UVB) Therapy for the Treatment of Guttate Psoriasis. August, 2008. [archived]
 - Health Technology Brief. Office-Based Phototherapy for Treatment of Atopic Dermatitis in Adults. Oct 16, 2013. [Archived 2014]
 - Health Technology Brief. Office-Based Phototherapy for Treatment of Atopic Dermatitis in Children. Oct 16, 2013. [Archived 2014]
 - Search & Summary. Excimer Laser Therapy (ELT) for Vitiligo. June, 2017. [Archived 2018]
 - Comparative Effectiveness Review: Laser and Light Therapies for Rosacea. Dec, 2018, updated May, 2020.
 - Comparative Effectiveness Review of Laser Therapy for Psoriasis. April, 2019. Updated July, 2020.

56. UpToDate: [website]: Waltham, MA: Walters Kluwer Health; 2021.

- Goldstein B, Goldstein A. Vitiligo.
- Dover J, Batra P. Light-based, adjunctive, and other therapies for acne vulgaris.
- Richard EG, Morison W. Psoralen plus ultraviolet A (PUVA) photochemotherapy.
- Weston WL, Howe W, Dellavalle RP et al. Treatment of atopic dermatitis (eczema).
- Spergel J. Management of severe refractory atopic dermatitis (eczema).
- Honigsmann H. UVB therapy (broadband and narrowband).
- Feldman S. Targeted phototherapy.

57. Dynamed: [Internet]. Ipswich (MA): EBSCO Information Services. 1995 – 2021. Psoriasis.

Revision/Review History

3/8/18, 6/19/19, 4/23/20, & 4/5/21: Policy reviewed, no changes to criteria. References updated.