Mass General Brigham
Health Plan

Medical Policy
Phototherapy and Photochemotherapy for Dermatologic Conditions

Policy Number: 043

	Commercial and Qualified Health Plans	Mass General Brigham ACO	Medicare Advantage	OneCare	Senior Care Options (SCO)
Authorization Required Photochemotherapy UVB Excimer Laser Therapy	X	X	X	X	X
No Prior Authorization Phototherapy Narrow Band UVB Phototherapy Photodynamic Therapy[1]	X	X	X	X	X

Overview

The purpose of this document is to describe the guidelines Mass General Brigham Health Plan utilizes to determine medical appropriateness for phototherapy, photochemotherapy, photochemotherapy excimer laser therapy, and photodynamic therapy. The treating specialist must request prior authorization for photochemotherapy and excimer laser therapy.

Coverage Guidelines

Mass General Brigham Health Plan covers phototherapy, photochemotherapy, excimer laser therapy, and photodynamic therapy[1] for the treatment of certain skin conditions, or cancers, when such treatment is recommended by the member's primary care physician or dermatologist. In addition, photochemotherapy, and excimer laser therapy must meet the medical necessity criteria indicated below.

Photodynamic therapy, UVA, UVB Phototherapy, and Narrow Band UVB Phototherapy are covered without prior authorization as reflected in the table listed above.

<u>UVB Photochemotherapy</u>

Mass General Brigham Health Plan covers medically necessary UVB Photochemotherapy (using petrolatum/mineral oil and generally, narrow band UVB) for the following conditions characterized by thickened plaque or scale:

- Atopic dermatitis (eczema)
- Cutaneous T Cell Lymphoma (CTCL), Mycosis fungoides, Sezary Syndrome
- Lichen planus
- Pityriasis lichenoides chronica

[1] Only covered for specific conditions for the treatment of an actinic keratosis, a malignant neoplasm of the skin, or a carcinoma in situ of the skin. Photodynamic therapy is not a covered benefit for any other diagnosis. Photodynamic therapy does not require prior authorization when used for the treatment of covered conditions.

- Pityriasis lichenoids et varioliformis acutea (PLEVA)
- Psoriasis
- Pruritus
- Vitiligo

When, except for CTCL, both of the following conditions have been met:

1. Either
    a. Moderate to severe disease with 10% or greater body surface area involvement; or
    b. In extenuating circumstances: site involvement (scalp, palms, soles)
2. A two-week trial of at least one of the following therapies has failed:
    a. Topical or oral corticosteroids
    b. Topical calcipotriene
    c. Topical calcineurin inhibitors[2]
    d. Topical tazarotene[1]

Mass General Brigham Health Plan covers initial treatment of up to 36 treatments within 16 weeks. Additionally, Mass General Brigham Health Plan covers maintenance treatments when documentation shows that the skin condition has improved from baseline and requires continued maintenance. Authorization may be granted for no more than 36 treatments at a time, and no more than 12 months at a time, but may be renewed indefinitely as long as new documentation continues to demonstrate the need for ongoing maintenance therapy.

<u>UVA Photochemotherapy or PUVA (the use of psoralen with UVA phototherapy)</u>
Mass General Brigham Health Plan covers medically necessary PUVA for the following conditions:

- Alopecia areata
- CTCL (Mycosis fungoides stage 1 and stage 2)
- Eczema after failing narrow band UVB therapy
- Granuloma Annulare – Generalized variant
- Lichen planus after failing narrow band UVB therapy
- Pityriasis lichenoides chronica after failing narrow band UVB therapy
- PLEVA after failing narrow band UVB phototherapy
- Psoriasis after failing narrow band UVB therapy
- Vitiligo on the face, anterior neck and/or hands after failing narrow band UVB phototherapy
- Urticaria Pigmentosa in conjunction with cromoglycalates, antihistamines, or leukotriene modifying agents
- Parapsoriasis

[2] Medications may be subject to step therapy through the pharmacy program.

- Pruritis

When, except for CTCL, both of the following conditions have been met:

1. Either
    a. Moderate to severe disease with 10% or greater body surface area involvement; or
    b. In extenuating circumstances: Site involvement (scalp, palms, soles)
2. At least a two-week trial of the following therapies has failed:
    a. Topical or oral corticosteroids
    b. Topical calcipotriene
    c. Topical calcineurin inhibitors[1]
    d. Topical tazarotene[1]

Mass General Brigham Health Plan covers initial treatment of up to 36 treatments within 16 weeks. Additionally, Mass General Brigham Health Plan covers maintenance treatments when documentation shows that the skin condition has improved from baseline and requires continued maintenance. Authorization may be granted for no more than 36 treatments at a time, and no more than 12 months at a time, but may be renewed indefinitely as long as new documentation continues to demonstrate the need for ongoing maintenance therapy.

<u>UVB Excimer Laser Therapy</u>

Mass General Brigham Health Plan covers medically necessary UVB excimer laser treatment for:

A. **Psoriasis** when both of the following are met:

1. The psoriatic lesions being treated cover less than or equal to 5% of the total body surface area; and
2. A two-month trial of at least two of the following therapies has failed:
    a. Topical or oral corticosteroids
    b. Topical calcipotriene
    c. Topical calcineurin inhibitors[2]
    d. Topical tazarotene[2]

Initial authorization is limited to 15 treatments, and if significant improvement is demonstrated, up to 15 additional treatments may be authorized.

B. **Vitiligo** when:

1. Vitiligo involves less than 10% of the member's body surface area; OR
2. The area being treated for vitiligo cannot be adequately reached during light box therapy (e.g., treatment of the face, fingers, neck, scalp, toes, special sites); OR
3. The member requires treatment for vitiligo but has a contraindication for total body phototherapy.

Exclusions

Mass General Brigham Health Plan does not provide coverage for photochemotherapy**,** UVB excimer laser treatments, or photodynamic therapy for conditions that do not meet the criteria noted above.

Medicare Variation

Mass General Brigham Health Plan uses guidance from the Centers for Medicare and Medicaid Services (CMS) for medical necessity determinations for its Medicare Advantage plan members. National Coverage Determinations (NCDs), Local Coverage Determinations (LCDs), Local Coverage Articles (LCAs), and

documentation included in the Medicare manuals are the basis for medical necessity determinations. When there is no guidance from CMS for the requested service, Mass General Brigham Health Plan's medical policies are used for medical necessity determinations. **At the time of Mass General Brigham Health Plan's most recent policy review, Medicare had:**

- **NCD - Treatment of Psoriasis (250.1)**

Mass General Brigham Health Plan provides additional clarification and specificity beyond existing NCDs and LCDs to ensure consistent medical review and coverage decisions. This aligns with the latest clinical evidence and accepted standards of practice, without contradicting existing determinations, and enhances the clarity of medical necessity criteria, documentation requirements, and clinical indications.

MassHealth Variation
Mass General Brigham Health Plan uses guidance from MassHealth for medical necessity determinations for its Mass General Brigham ACO members. When there is no guidance from MassHealth for a requested service, Mass General Brigham Health Plan's medical policies are used for medical necessity determinations. **At the time of Mass General Brigham Health Plan's most recent policy review, MassHealth did not have any medical necessity guidelines for phototherapy or photochemotherapy for dermatologic conditions.**

OneCare and SCO Variation
Mass General Brigham Health Plan uses guidance from CMS for medical necessity determinations for its OneCare and SCO plan members. NCDs, LCDs, LCAs, and documentation included in the Medicare manuals are the basis for medical necessity determinations. When there is no guidance from CMS for the requested service, Mass General Brigham Health Plan uses medical necessity guidelines from MassHealth. When there is no guidance from CMS or from MassHealth, Mass General Brigham Health Plan's medical policies are used for medical necessity determinations.

Definitions
Excimer Laser Therapy: Treatment by emitting light of wavelength 308 nm and is thus similar to the 311 nm of the established narrow band (NB) UVB therapy.

Phototherapy: The exposure to nonionizing radiation for therapeutic benefit. It may involve exposure to ultraviolet A, wavelength 320-400 nanometers (UVA), ultraviolet B, wavelength 290-300 nanometers (UVB), narrow band UVB, wavelength 311-313 nanometers (NB UVB), or various combinations of UVA and UVB radiation.

Photochemotherapy: The therapeutic use of radiation in combination with a photosensitizing chemical. Treatment with these modalities may involve partial or whole-body exposure.

Photodynamic Therapy: Targeted therapy, which uses a light-sensitive drug that is activated inside the body by laser light to kill cells.

Related Policies

- Medicare Advantage Administration Guidelines Medical Policy

Codes

The following codes are included below for informational purposes only; inclusion of a code does not constitute or imply coverage or reimbursement.

Authorized Code	Code Description
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 4-8 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

Summary of Evidence
Phototherapy has emerged as a valuable treatment modality for many different dermatologic conditions.

Atopic Dermatitis
Several reviews and studies have detailed the mechanisms, modalities, and clinical efficacy of phototherapy in managing atopic dermatitis (AD), particularly in cases that are moderate to severe and resistant to conventional therapies (Patrizi et al., 2015). Narrowband UVB (NB-UVB) is often favored for its safety profile and effectiveness in reducing inflammation, itching, and skin lesions associated with AD. Though the mechanism of action has not been studied in depth (Rodenbeck et al., 2016), the immunomodulatory effects of phototherapy help to restore skin barrier function and suppress the overactive immune response characteristic of the disease.

While PUVA therapy (psoralen plus UVA) is another option for AD, its use is generally reserved for more severe or refractory cases due to higher risks, including potential phototoxicity and long-term skin damage (Ibbotson, 2018). The literature highlights the importance of balancing efficacy with safety when choosing phototherapy modalities, and individualized, comprehensive treatment plans are encouraged (Patrizi et al., 2015).

Moreover, comprehensive reviews emphasize that phototherapy can improve patient quality of life by controlling flare-ups and reducing reliance on topical corticosteroids and systemic immunosuppressants, which may carry more significant side effects (Rodenbeck et al., 2016). Ongoing research and clinical guidelines continue to refine protocols for phototherapy in AD, ensuring optimized dosing, duration, and patient monitoring to maximize benefits while minimizing risks.

In summary, phototherapy, especially NB-UVB, is a well-supported, effective, and generally safe treatment for atopic dermatitis, offering an important alternative or adjunct to conventional therapies, particularly in chronic or difficult-to-treat cases.

Mycosis Fungoides/Sézary Syndrome
Phototherapy plays a central role in the management of cutaneous T-cell lymphoma (CTCL), particularly for early-stage mycosis fungoides and Sézary syndrome. According to guidelines from Olsen et al. (2016), as well as a review by Trautinger (2018), phototherapy modalities such as NB-UVB and PUVA are established frontline therapies for controlling skin lesions and improving symptoms in these patients. NB-UVB is typically preferred for patch stages of mycosis fungoides and can even be effective in patients who were refractory to PUVA. PUVA is often reserved for plaques or more advanced disease, offering deeper skin penetration and enhanced therapeutic effects. However, topical PUVA is generally not recommended as it does not allow for whole-skin exposure, which may be important to prevent relapses, especially in untreated areas.

Comparative studies, including meta-analyses by Phan et al. (2019), have shown both NB-UVB and PUVA to be effective in disease management, with treatment choice often depending on disease stage, lesion thickness, and patient tolerance. Per National Comprehensive Cancer Network (NCCN) guidelines published in June 2025, PUVA, while highly effective, carries a higher risk of phototoxicity and long-term side effects, necessitating careful monitoring and patient selection.

Clinical practice emphasizes the importance of combining phototherapy with other systemic or topical treatments in more advanced or refractory cases, optimizing disease control while minimizing toxicity (Olsen et al., 2016; Trautinger, 2018).

Overall, phototherapy remains a cornerstone in the treatment algorithm for CTCL, mycosis fungoides, and Sézary syndrome, with well-established protocols that balance efficacy and safety. Continued research and consensus guidelines ensure its appropriate use tailored to individual patient needs and disease severity.

Lichen Planus

Phototherapy has demonstrated significant effectiveness in the treatment of generalized lichen planus, a chronic inflammatory skin condition often challenging to manage with conventional therapies. Studies such as those by Weber et al. (2022) highlight the successful use of NB-UVB phototherapy and PUVA photochemotherapy in improving skin lesions and reducing symptoms associated with lichen planus. NB-UVB is frequently favored due to its ability to induce remission with fewer side effects, while PUVA may be considered for more extensive or refractory cases.

Overall, phototherapy offers a well-tolerated and efficacious option for patients with generalized lichen planus, especially when topical treatments alone are insufficient. The growing body of evidence supports its role as a valuable component in the therapeutic arsenal against this challenging dermatosis.

Pityriasis Lichenoides et Varioliformis

Pityriasis lichenoides et varioliformis acuta (PLEVA) is an acute, inflammatory skin disorder characterized by sudden onset of erythematous papules that may crust and scar. Insights from phototherapy literature suggest that NB-UVB and PUVA can be effective treatment options for this condition, given their immunomodulatory properties and success in managing related inflammatory dermatoses.

NB-UVB phototherapy is often preferred due to its favorable safety profile and ability to reduce inflammation and immune-mediated skin damage, promoting lesion clearance. PUVA may be reserved for more severe or refractory cases, providing deeper skin penetration and stronger immunosuppressive effects, although it requires careful monitoring due to potential side effects (Ibbotson, 2018). Given PLEVA's often recurrent and sometimes resistant nature, phototherapy offers a valuable non-invasive option to control disease activity and improve patient quality of life.

Psoriasis

Phototherapy, including excimer laser and ultraviolet-based treatments, plays a pivotal role in the management of psoriasis, offering effective and well-tolerated options for patients with varying disease severity. Studies by Abrouk et al. (2016) and Alyoussef (2023) emphasize the safety, efficacy, and patient acceptability of excimer laser therapy as a targeted, revolutionary treatment for localized psoriasis plaques. Abrouk et al. (2016) notes that excimer laser is an excellent option for psoriasis patients who are refractory to biologic treatment modalities, and it has few to no side effects. Broad-spectrum phototherapy, especially NB-UVB, is widely used for moderate to severe psoriasis, demonstrating substantial improvement in skin lesions through immunomodulation and reduction of keratinocyte proliferation (Zhang and Wu, 2018). Alyoussef (2023) recommends that the decision to use a particular treatment is typically based on the patient's condition, medical history, and other factors. The effectiveness of excimer laser or NB-UVB may vary depending on the patient's response.

PUVA remains a potent alternative, particularly for thick plaques or more resistant cases, though its use requires caution due to increased risks of phototoxicity and long-term adverse effects (França et al., 2017; Ibbotson, 2018). Campbell (2020) highlights the importance of personalized treatment protocols to maximize therapeutic benefits while minimizing side effects. Clinical guidelines consistently recommend phototherapy as a first- or second-line treatment option, often combined with topical or systemic agents for enhanced disease control.

Overall, phototherapy and excimer laser treatments offer a versatile, effective, and generally safe approach for psoriasis management, improving patient quality of life and reducing disease burden through targeted immune modulation and skin healing.

Pruritus

Pruritus, a common and often distressing symptom in many dermatologic conditions, can be effectively managed using phototherapy. Several studies and reviews suggest that NB-UVB and PUVA alleviate itching by modulating immune responses and reducing skin inflammation, key drivers of pruritus across diseases like atopic dermatitis, cutaneous T-cell lymphoma, and psoriasis (Rodenbeck et al., 2016; Marka and Carter, 2020; Zhang and Wu, 2018).

Phototherapy's ability to suppress pro-inflammatory cytokines contributes to symptom relief. This is particularly important in chronic conditions where pruritus significantly impairs quality of life. Treatments such as NB-UVB are favored due to their safety profile and efficacy in reducing itch without the systemic side effects (Campbell, 2020).

In cases of cutaneous T-cell lymphoma and other pruritic dermatoses, phototherapy not only improves skin lesions but also provides meaningful itch control, enhancing overall patient well-being (Olsen et al., 2016; Trautinger, 2018). Thus, phototherapy represents a valuable non-pharmacological option for managing pruritus, either as monotherapy or in combination with other treatments.

Alopecia Areata

Phototherapy has been explored as a treatment option for alopecia areata (AA), an autoimmune disorder characterized by patchy hair loss. While not the first-line therapy, PUVA and NB-UVB have shown potential benefits in modulating the immune response and promoting hair regrowth in some patients. Clinical trials, such as the randomized controlled study by El-Mofty et al. (2019), indicate that PUVA can improve disease outcomes in patients with more extensive conditions where first-line therapies may not be suitable.

Reviews by Welsh (2016) and Sterkens et al. (2021) highlight phototherapy's immunomodulatory effects, though responses can be variable and dependent on disease severity and duration. Phototherapy is often considered in combination with other treatments, especially for refractory or chronic cases. Safety and tolerability are generally favorable, but long-term data are limited, and phototherapy is typically reserved for patients who do not respond adequately to conventional therapies.

Granuloma Annulare

Phototherapy, particularly NB-UVB and PUVA, has been investigated as an effective treatment option for generalized granuloma annulare (GA), a chronic inflammatory skin condition characterized by annular plaques. Studies by Cunningham et al. (2016) and Pavlovsky et al. (2016) report favorable outcomes with both NB-UVB and PUVA phototherapy, showing significant lesion improvement and symptom relief in patients with generalized forms of the disease.

The immunomodulatory effects of phototherapy help to reduce the granulomatous inflammation underlying GA, promoting resolution of skin lesions. NB-UVB is often preferred due to its safety profile and ease of administration, while PUVA may be considered in more extensive or refractory cases for enhanced efficacy (Cunningham et al., 2016; Barros et al., 2021).

Overall, phototherapy offers a well-tolerated, effective, and non-invasive treatment option for patients with generalized granuloma annulare, especially when topical or systemic therapies fail or are contraindicated. Continued clinical experience and research support its role in improving disease outcomes and patient quality of life.

Vitiligo

Phototherapy is a cornerstone in the management of vitiligo, a chronic depigmenting disorder characterized by the loss of melanocytes. NB-UVB phototherapy is widely regarded as the most effective and safest treatment modality, as highlighted in systematic reviews and meta-analyses by Bae et al. (2017). NB-UVB promotes repigmentation by stimulating melanocyte proliferation and migration, while also modulating local immune responses that contribute to melanocyte destruction.

PUVA therapy is another option, particularly in resistant or extensive cases, though its use is limited by greater side effects and phototoxic risk compared to NB-UVB (Barros et al., 2021). Regular, long-term phototherapy sessions have been shown to improve repigmentation rates and are often combined with topical agents to enhance outcomes.

Phototherapy not only improves the cosmetic appearance in vitiligo patients but also contributes significantly to quality of life by reducing the psychological burden of the disease. Current guidelines recommend NB-UVB as first-line phototherapy, supported by robust evidence of its efficacy and favorable safety profile (Bae et al., 2017; Barros et al., 2021).

Urticaria Pigmentosa

Phototherapy, including NB-UVB and PUVA, has been explored as a treatment option for urticaria pigmentosa, a form of cutaneous mastocytosis characterized by mast cell accumulation and associated skin lesions. Brazzelli et al. (2016) conducted studies demonstrating that both NB-UVB and PUVA can improve skin symptoms by reducing mast cell activity and controlling pruritus and lesion severity.

While phototherapy does not cure mastocytosis, its immunomodulatory effects help alleviate cutaneous manifestations and improve patient comfort. NB-UVB is generally preferred for its safety and ease of use, but PUVA may be employed in more severe or refractory cases due to its deeper skin penetration and stronger effects (Barros et al., 2021).

Overall, phototherapy offers a viable adjunctive treatment for urticaria pigmentosa, helping manage symptoms and enhance quality of life, although individualized treatment plans and careful monitoring are essential due to potential photosensitivity.

Parapsoriasis

Parapsoriasis, a chronic inflammatory skin disorder that can sometimes be a precursor to cutaneous T-cell lymphoma, is commonly managed with phototherapy, particularly NB-UVB and PUVA. Drawing from insights into similar conditions such as mycosis fungoides and other cutaneous lymphomas (Olsen et al., 2016; Trautinger, 2018), phototherapy is effective in controlling skin lesions, reducing inflammation, and potentially delaying disease progression.

NB-UVB phototherapy is often preferred for its safety and efficacy in early-stage or limited disease, while PUVA may be reserved for more extensive or resistant cases, providing deeper immunosuppressive effects (Ibbotson, 2018; Phan et al., 2019). The immunomodulatory mechanisms of phototherapy help suppress abnormal T-cell activity implicated in parapsoriasis.

Overall, phototherapy represents a well-established, non-invasive treatment modality that can improve clinical outcomes and quality of life in parapsoriasis patients. Careful patient monitoring and tailored treatment regimens are essential to optimize efficacy and minimize potential risks.

Effective Dates

January 2026: Annual. Updated prior authorization table and added variation for OneCare and SCO members. Fixed code disclaimer. Added vitiligo as an indication for UVB photochemotherapy. Updated excimer laser criteria for members with more extensive vitiligo. Edited summary of evidence and updated references.
April 2025: Clarified Medicare variation. Summary of evidence added. References updated.
March 2025: Annual Update. Added MassHealth variation language. Extended window of prior authorization for UVB photochemotherapy and PUVA from 3 months to 16 weeks. Relaxed criteria to allow for more frequent maintenance treatments when necessary. Fixed typos in UVB Photochemotherapy and PUVA criteria. Pruritis added to conditions that can be treated with UVB photochemotherapy.
January 2024: Annual Update. On page 1 under UVB Photochemotherapy, added Mycosis fungoides, Sezary Syndrome next to CTCL. References updated.
February 2023: Annual Update. The following changes were made:

- Page 1. Added Medicare Advantage to table. Added Photodynamic therapy to statement regarding table.
- Page 2: Under UVA Photochemotherapy or PUVA section, added Mycosis fungoides, parapsoriasis, and pruritis. Also added "At least" to statement regarding CTCL trial.
- Page 3: Under UVB Excimer Laser treating Vitiligo, added special sites to treatment area; item B. 2. Added Medicare Variation language. Added statement regarding coding applying to commercial and MassHealth plans only.
- Page 5: References updated.

January 2022: Annual Update.
January 2021: Annual Update. References updated.
January 2020: Annual Update. Added Alopecia areata to conditions under UVA Photochemotherapy or PUVA. Added Vitiligo criteria under UVB Excimer Laser Therapy. References updated.
January 2019: Annual Update. Under UVB Excimer Laser Therapy, changed trial from 3 months to 2 months. References updated.
April 2018: Ad hoc update. Added procedure codes.
December 2017: Annual Update.
July 2017: Ad hoc update. Added clarifying sentence on page 1: *"UVA and UVB Phototherapy are covered without prior authorization as reflected in the table listed above*." Edited two conditions under UVA Photochemotherapy or PUVA to read *after failing narrow band UVB phototherapy.*
April 2017: Annual Update.
April 2016: Annual Update.
April 2015: Annual Update.
April 2014: Annual Update.
April 2013: Annual Update. Modified coverage conditions, and conventional therapy. Removed Vitiligo as a covered condition.
November 2011: Effective date.

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