Light Therapy for Dermatologic Conditions

**Description of Procedure or Service**

Light therapy for psoriasis and vitiligo includes both targeted phototherapy and photochemotherapy with psoralsen plus ultraviolet A (PUVA). Targeted phototherapy describes the use of ultraviolet light that can be focused on specific body areas or lesions. PUVA uses a psoralen derivative in conjunction with long wavelength ultraviolet A (UVA) light (sunlight or artificial) for photochemotherapy of skin conditions.

Psoriasis is a common chronic immune-mediated disease characterized by skin lesions ranging from minor localized patches to complete body coverage. There are several types of psoriasis; most common is plaque psoriasis which is associated with red and white scaly patches on the skin. In addition to being a skin disorder, psoriasis can negatively impact many organ systems and is associated with an increased risk of cardiovascular disease, some types of cancer, and autoimmune diseases such as celiac disease and Crohn disease. Psoralens are tricyclic furocoumarins that occur in certain plants and can also be synthesized. They are available in oral and topical forms. Oral PUVA is generally given 1.5 hours before exposure to UVA radiation. Topical PUVA therapy refers to directly applying the psoralsen to the skin with subsequent exposure to UVA light. Bath PUVA is used in some European countries for generalized psoriasis, but the agent used, trimethylpsoralsen, is not approved by the U.S. Food and Drug Administration (FDA). Paint PUVA and soak PUVA are other forms of topical application of psoralsen and are often used for psoriasis localized to the palms and soles. In paint PUVA, 8-methoxypsoralen (8-MOP) in an ointment or lotion form is put directly on the lesions. With soak PUVA, the affected areas of the body are placed in a basin of water containing psoralsen. With topical PUVA, UVA exposure is generally administered within 30 minutes of psoralsen application.

PUVA has most commonly been used to treat severe psoriasis, for which there is no generally accepted first-line treatment. Each treatment option (e.g., systemic therapies such as methotrexate, phototherapy, biologic therapies, etc.) has associated benefits and risks. Common minor toxicities associated with PUVA include erythema, pruritis, irregular pigmentation, and gastrointestinal tract symptoms; these generally can be managed by altering the dose of psoralsen or UV light. Potential long-term effects include photoaging and skin cancer, particularly squamous cell carcinoma (SCC) and possibly malignant melanoma. PUVA is generally considered more effective than targeted phototherapy for the treatment of psoriasis. However, the requirement of systemic exposure and the higher risk of adverse reactions (including a higher carcinogenic risk) have generally limited PUVA therapy to patients with more severe cases.

Potential advantages of targeted phototherapy include the ability to use higher treatment doses and to limit exposure to surrounding tissue. Broadband ultraviolet B (BB-UVB) devices, which emit wavelengths from 290 to 320 nm, have been largely replaced by narrowband (NB)-UVB devices. NB-UVB devices eliminate wavelengths below 296 nm, which are considered erythemogenic and carcinogenic but not therapeutic. NB-UVB is more effective than BB-UVB
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and approaches PUVA in efficacy. Original NB-UVB devices consisted of a Phillips TL-01 fluorescent bulb with a maximum wavelength (\(\lambda\) max) at 311 nm. Subsequently, xenon chloride (XeCl) lasers and lamps were developed as targeted NB-UVB treatment devices; they generate monochromatic or very narrow band radiation with a \(\lambda\) max of 308 nm. Targeted phototherapy devices are directed at specific lesions or affected areas, thus limiting exposure to the surrounding normal tissues. They may therefore allow higher dosages compared to a light box, which could result in fewer treatments to produce clearing.

The original indication of the excimer laser was for patients with mild to moderate psoriasis, defined as involvement of less than 10% of the skin. Typically, these patients have not been considered candidates for light box therapy, since the risks of exposing the entire skin to the carcinogenic effects of UVB light may outweigh the benefits of treating a small number of lesions. Newer XeCl laser devices are faster and more powerful than the original models, which may allow treatment of patients with more extensive skin involvement, 10–20% of body surface area.

The American Academy of Dermatology does not recommend phototherapy for patients with mild localized psoriasis whose disease can be controlled with topical medications. A variety of topical agents are available including steroids, coal tar, vitamin D analogues (e.g., calcipotriol and calcitriol), tazarotene, and anthralin.

Vitiligo is an idiopathic skin disorder that causes depigmentation of sections of skin, most commonly on the extremities. Depigmentation occurs because melanocytes are no longer able to function properly. The cause of vitiligo is unknown; it is sometimes considered to be an autoimmune disease. The most common form of the disorder is non-segmental vitiligo (NSV) in which depigmentation is generalized, bilateral, symmetrical, and increases in size over time. In contrast, segmental vitiligo (SV) also called asymmetric or focal vitiligo, covers a limited area of skin. The typical natural history of vitiligo involves stepwise progression with long periods in which the disease is static and relatively inactive, and relatively shorter periods in which areas of pigment loss increase.

There are numerous medical and surgical treatments aimed at decreasing disease progression and/or attaining repigmentation. Topical corticosteroids, alone or in combination with topical vitamin D3 analogs, is a common first-line treatment for vitiligo. Alternative first-line therapies include topical calcineurin inhibitors, systemic steroids, and topical antioxidants. Treatment options for vitiligo recalcitrant to first-line therapy include, among others, psoralens with ultraviolet A and targeted light therapy.

**Regulatory Status**

In 2001, the XeCl excimer laser (XTRAC™ by PhotoMedex) received 510(k) clearance from the U.S. Food and Drug Administration (FDA) for the treatment of skin conditions such as vitiligo. The 510(k) clearance has subsequently been obtained for a number of targeted UVB lamps and lasers, including newer versions of the XTRAC system including the XTRAC Ultra™, the VTRAC™ lamp (PhotoMedex), the BClear™ lamp (Lumenis), the 308 excimer lamp phototherapy system (Quantel Medical) and the Excilite™ and Excilite µ™ XeCl lamps. The intended use of all of these devices includes vitiligo among other dermatological indications.

In 2010, the Levia Personal Targeted Phototherapy® UVB device (Daavlin Co., Bryan, OH previously manufactured by Lerner Medical Devices, Los Angeles, CA) was cleared by FDA for home treatment of psoriasis.

The oral psoralen products Oxsoralen-Ultra (methoxsalen soft gelatin capsules) and 8-MOP (methoxsalen hard gelatin capsules) have been approved by the FDA; both are made by Valeant Pharmaceuticals. Topical psoralen products have also received FDA approval e.g., Oxsoralen (Valeant Pharmaceuticals).
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Related Policies:
- Ultraviolet Light Therapy in the Home Setting (UVB)
- Dermatologic Applications of Photodynamic Therapy

***Note: This Medical Policy is complex and technical. For questions concerning the technical language and/or specific clinical indications for its use, please consult your physician.

Policy

BCBSNC will provide coverage for light therapy for dermatologic conditions when it is determined to be medically necessary because the medical criteria and guidelines shown below are met.

Benefits Application

This medical policy relates only to the services or supplies described herein. Please refer to the Member's Benefit Booklet for availability of benefits. Member's benefits may vary according to benefit design; therefore member benefit language should be reviewed before applying the terms of this medical policy.

When Light Therapy for Dermatologic Conditions is covered

PUVA may be considered medically necessary for the treatment of the following conditions:

- Severe, disabling psoriasis, which is not responsive to other forms of conservative therapy (e.g., topical corticosteroids, coal/tar preparations, and ultraviolet light)
- Severe refractory atopic dermatitis which is not responsive to other forms of conservative therapy (e.g., topical corticosteroids, coal/tar preparations, and ultraviolet light)
- Severe refractory pruritus which is not responsive to other forms of conservative therapy (e.g., topical corticosteroids, coal/tar preparations, and ultraviolet light)
- Cutaneous T-cell lymphoma (e.g., mycosis fungoides and Sezary syndrome)
- Vitiligo which is not responsive to other forms of conservative therapy (e.g., topical corticosteroids, coal/tar preparations, and ultraviolet light)

Targeted phototherapy may be considered medically necessary for the treatment of the following conditions:

- Moderate to severe psoriasis (comprising less than 20% body area) for which NB-UVB or PUVA are indicated
- Mild to moderate localized psoriasis that is unresponsive to conservative treatment
- Cutaneous T-cell lymphoma (e.g., mycosis fungoides and Sezary syndrome)

When Light Therapy for Dermatologic Conditions is not covered

Targeted phototherapy is considered investigational for conditions not addressed as medically necessary under the section above “When Light Therapy for Dermatologic Conditions is Covered,” including, but not limited to:

- First-line treatment of mild psoriasis
- Generalized psoriasis or psoriatic arthritis
- Vitiligo

Policy Guidelines

For individuals who have mild localized psoriasis who receive targeted phototherapy, there is little evidence. The relevant outcomes are symptoms, change in disease status, quality of life, and
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treatment-related morbidity. The evidence is lacking on the use of targeted phototherapy as first-line treatment of mild psoriasis. The evidence is insufficient to determine the effects of the technology on health outcomes.

For individuals who have mild psoriasis that is resistant to topical medications who receive targeted phototherapy, the evidence includes small within-subject studies. The relevant outcomes are symptoms, change in disease status, quality of life, and treatment-related morbidity. The available pre-post studies have shown that targeted phototherapy can improve mild localized psoriasis (<10% body surface area) that has not responded to topical treatment. Targeted phototherapy is presumed to be safer or at least no riskier than whole body phototherapy, due to risks of exposing the entire skin to the carcinogenic effects of UVB light. The evidence is sufficient to determine that the technology results in a meaningful improvement in the net health outcomes.

For individuals who have vitiligo who receive targeted phototherapy, the evidence includes systematic reviews of randomized controlled trials. The relevant outcomes are change in disease status, quality of life, and treatment-related morbidity. The studies tend to have small sample sizes, and few were designed to isolate the effect of laser therapy. Two meta-analyses were attempted; however, results from a meta-analysis could not be verified because the selected studies were not available in English, and one estimate was imprecise due to the small number of studies and participants. There is a lack of clinical trial evidence that compares this technique with more conservative treatments or no treatment/placebo. The evidence is insufficient to determine the effects of the technology on health outcomes.

For individuals who have vitiligo who have not responded to conservative therapy who receive PUVA (photochemotherapy), the evidence includes systematic reviews of randomized controlled trials. The relevant outcomes are change in disease status, quality of life, and treatment-related morbidity. There is some evidence from randomized studies, mainly those published before 1985, that PUVA is more effective than placebo for treating vitiligo. When compared with narrowband ultraviolet B in meta-analyses, results have shown that patients receiving narrowband ultraviolet B experienced higher rates of repigmentation than patients receiving PUVA, though the differences were not statistically significant. Based on the available evidence and clinical guidelines, PUVA may be considered in patients with vitiligo who have not responded adequately to conservative therapy. The evidence is sufficient to determine that the technology results in a meaningful improvement in the net health outcome.

For individuals who have moderate-to-severe localized psoriasis who receive targeted phototherapy, the evidence includes randomized controlled trials (RCTs) and systematic reviews of RCTs. The relevant outcomes are symptoms, change in disease status, quality of life, and treatment-related morbidity. Systematic reviews of small RCTs and non-RCTs in patients with moderate-to-severe psoriasis have found that targeted phototherapy has efficacy similar to whole body phototherapy and supports the use of targeted phototherapy for the treatment of moderate-to-severe psoriasis comprising less than 20% of body surface area for which narrowband UVB or phototherapy with PUVA are indicated. The evidence is sufficient to determine that the technology results in a meaningful improvement in the net health outcome.

For individuals who have generalized psoriasis who receive PUVA, the evidence includes RCTs and systematic reviews. The relevant outcomes are symptoms, change in disease status, quality of life, and treatment-related morbidity. RCTs and systematic reviews of RCTs have found that PUVA is more effective than narrowband UVB, topical steroids, or ultraviolet A without psoralens in patients with generalized psoriasis. The evidence is sufficient to determine that the technology results in a meaningful improvement in the net health outcome.
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Billing/Coding/Physician Documentation Information

This policy may apply to the following codes. Inclusion of a code in this section does not guarantee that it will be reimbursed. For further information on reimbursement guidelines, please see Administrative Policies on the Blue Cross Blue Shield of North Carolina web site at www.bcbsnc.com. They are listed in the Category Search on the Medical Policy search page.

Applicable service codes: 96900, 96912, 96913, 96920, 96921, 96922

There is no specific CPT code for laser therapy for vitiligo. It should currently be reported using the unlisted CPT 96999, but the CPT codes for laser therapy for psoriasis (96920-96922) might be used.

BCBSNC may request medical records for determination of medical necessity. When medical records are requested, letters of support and/or explanation are often useful, but are not sufficient documentation unless all specific information needed to make a medical necessity determination is included.

Scientific Background and Reference Sources


Medical Director review 4/2012

Specialty Matched Consultant Advisory Panel review 1/2013


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Medical Director review 1/2014
Specialty Matched Consultant Advisory Panel review 1/2014
Specialty Matched Consultant Advisory Panel review 1/2015
Specialty Matched Consultant Advisory Panel review 1/2016
Medical Director review 1/2016

Policy Implementation/Update Information

5/15/12 New policy developed to combine policies titled, “Targeted Phototherapy for Psoriasis”, and “PUVA (Psoralens with Ultraviolet A) Therapy.” This policy also addresses coverage for treatment of vitiligo. PUVA may be considered medically necessary for the treatment of severe, disabling psoriasis, severe refractory atopic dermatitis and severe refractory pruritus which is not responsive to other forms of conservative therapy (e.g., topical corticosteroids, coal/tar preparations, and ultraviolet light.) PUVA may be considered medically necessary for the treatment of Cutaneous T-Cell Lymphoma (e.g., mycosis fungoides and Sezary syndrome.) PUVA may be considered medically necessary for the treatment of vitiligo which is not responsive to other forms of conservative therapy (e.g., topical corticosteroids, coal/tar preparations, and ultraviolet light.) Targeted phototherapy may be considered medically necessary for the treatment of moderate to severe psoriasis (comprising less than 20% body area) for which NB-UVB or PUVA are indicated. Targeted phototherapy may be considered medically necessary for the treatment of mild to moderate localized psoriasis that is unresponsive to conservative treatment. Targeted phototherapy is considered investigational for the first-line treatment of mild psoriasis. Targeted phototherapy is considered investigational for the treatment of generalized psoriasis or psoriatic arthritis. Targeted phototherapy is considered investigational for the treatment of vitiligo. Medical Director review 4/2012. (mco)

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2/12/13 Specialty Matched Consultant Advisory Panel review 1/2013. No changes to Policy Statements. (mco)

4/1/13 References updated. (mco)

5/28/13 References updated. No changes to Policy Statements. (mco)

2/11/14 Specialty Matched Consultant Advisory Panel review 1/2014. Medical Director review 1/2014. Re-formatted “When Covered” section to bulleted items and added Cutaneous T-cell lymphoma as a covered condition for treatment with targeted phototherapy. “When not Covered” section re-formatted to bulleted items and statement revised to state: “Targeted phototherapy is considered investigational for the following conditions, including but not limited to: First-line treatment of mild psoriasis, Generalized psoriasis or psoriatic arthritis, Vitiligo” Policy Guidelines updated. (mco)

4/1/14 References updated. No changes to Policy Statements. (mco)

5/27/14 References updated. No changes to Policy Statements. (mco)


5/26/15 References updated. Description section updated. Policy Statement remains unchanged. (td)


1/27/17 Specialty Matched Consultant Advisory Panel review 11/30/2016. No change to policy statement. (an)

12/15/17 Specialty Matched Consultant Advisory Panel review 11/29/2017. No change to policy statement. (an)

11/9/18 References updated. Specialty Matched Consultant Advisory Panel review 10/24/2018. No change to policy statement. (an)


Medical policy is not an authorization, certification, explanation of benefits or a contract. Benefits and eligibility are determined before medical guidelines and payment guidelines are applied. Benefits are determined by the group contract and subscriber certificate that is in effect at the time services are rendered. This document is solely provided for informational purposes only and is based on research of current medical literature and review of common medical practices in the treatment and diagnosis of disease. Medical practices and knowledge are constantly changing and BCBSNC reserves the right to review and revise its medical policies periodically.