Light Therapy for Psoriasis
Corporate Medical Policy

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Description/Summary

Light therapy for psoriasis includes both targeted phototherapy and photo chemotherapy with psoralen 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 photo chemotherapy of skin conditions.

The evidence for targeted phototherapy in patients who have mild psoriasis is limited. Relevant outcomes are symptoms, change in disease status, quality of life, and treatment-related morbidity. Based on this review, evidence is lacking for the use of targeted phototherapy for the first-line treatment of mild psoriasis. The evidence is insufficient to determine the effects of the technology on health outcomes.

The evidence for targeted phototherapy in patients who have moderate-to-severe psoriasis includes randomized controlled trials (RCTs) and systematic reviews. Relevant outcomes are symptoms, change in disease status, quality of life, and treatment-related morbidity. The literature supports the use of targeted phototherapy for the treatment of moderate-to-severe psoriasis comprising less than 20% body surface area for which narrowband ultraviolet B or photo chemotherapy with PUVA are indicated, and for the treatment of mild-to-moderate localized psoriasis that is unresponsive to conservative treatment. The evidence is sufficient to determine qualitatively that the technology results in a meaningful improvement in the net health outcome.

The evidence for PUVA in patients who have moderate-to-severe psoriasis includes RCTs and systematic reviews. Relevant outcomes are symptoms, change in disease status, quality of life, and treatment-related morbidity. Evidence from RCTs suggests that office-based PUVA is at least as effective as narrowband ultraviolet B and broadband ultraviolet A for patients with moderate-to-severe psoriasis. In addition, PUVA for severe treatment-resistant psoriasis is well-accepted and is recommended by the American Academy of Dermatology. The evidence is sufficient to determine
qualitatively that the technology results in a meaningful improvement in the net health outcome.

Another development in ultraviolet therapy for psoriasis involves use of a high energy 308 nm excimer laser (Excimer laser). The laser allows treatment of only involved skin; thus, considerably higher doses of UVB can be administered to psoriatic plaques at a given treatment compared with traditional phototherapy. Uncontrolled trials suggest that laser therapy results in faster responses than conventional phototherapy. As an example, one study of excimer laser therapy involved 124 patients with stable mild to moderate plaque psoriasis, of whom 80 completed the entire protocol. Treatments were scheduled twice weekly. After 10 or fewer treatments, 84 and 50 percent of patients achieved the outcomes of 75 percent or better and 90 percent or better clearing of plaques, respectively. This number of treatments was far fewer than that typically required of phototherapy (25 or more). Side effects of laser therapy included erythema and blistering; these were generally well tolerated, and no patient discontinued therapy because of adverse effects.

A common sequela of excimer laser therapy is the induction of UV-induced hyperpigmentation (tanning) in treated areas, which can be cosmetically distressing for some patients. Hyperpigmentation resolves after the discontinuation of treatment.

Like 311 nm UVB, the excimer laser represents a therapeutic advance toward specific wavelength therapies for psoriasis. While both the excimer laser and narrow band UVB are approved for use in psoriasis.

**Policy**

**Coding Information**

Click the links below for attachments, coding tables & instructions.

*Attachment I - Code Table & Instructions*

**When a service may be considered medically necessary**

Psoralen plus ultraviolet A (PUVA) for the treatment of severe, disabling psoriasis, which is not responsive to other forms of conservative therapy (eg, topical corticosteroids, coal/tar preparations, and ultraviolet light) may be considered medically necessary.

Targeted phototherapy may be considered medically necessary for the treatment of moderate-to-severe localized psoriasis (i.e., comprising less than 20% body area) for which narrowband ultraviolet B (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.

**Ultraviolet Light Systems for Home Use (HCPCS codes E0691- E0694)**

- We consider light box therapy for ultraviolet light A (UVA) and ultraviolet light B (UVB) medically necessary when all of the following are met:
  - When there is psoriasis defined as more than 5% of the body
When a service is considered investigational

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.

When a service is not medically necessary

We consider the use of home-based psoralens with Ultraviolet light A (PUVA) not medically necessary.

When a service is not a covered benefit (Benefit exclusion)

We consider light box therapy for the treatment of vitiligo cosmetic and not a covered benefit.

Policy Guidelines

Disease severity is minimally defined by body surface area (mild psoriasis affects less than 5% of the body’s surface area, moderate psoriasis affects 5% to 10%, and severe disease affects more than 10% body surface area). However, lesion characteristics (eg, location and severity of erythema, scaling, induration, pruritus) and impact on quality of life are also taken into account (see references 1-3). For example, while a handprint is equal to approximately 1% body surface area, lesions on the hands, feet, or genitalia that cause disability may be classified as moderate-to-severe. The Psoriasis Area and Severity Index (PASI) may be used as an outcome measure in clinical research. Clinical assessment of disease severity is typically qualitative.

CPT codes 96920-96922 specifically describe ultraviolet light laser treatment for inflammatory disease (psoriasis) according to the surface area of skin treated (total area <250 cm², 250 cm²-500 cm², >500 cm²).

The laser treatment codes are distinct from the CPT codes that describe the dermatologic use of ultraviolet light, also known as action-therapy (96900), and photo chemotherapy (96910-96913).

Established treatments for psoriasis include use of topical ointments and ultraviolet light ("light lamp") treatments. Lasers and targeted ultraviolet B (UVB) lamps are considered equivalent devices; targeted UV devices are comparable with UV light
panels for treatment purposes. First-line treatment of UV-sensitive lesions may involve around 6 to 10 office visits; treatment of recalcitrant lesions may involve around 24 to 30 office visits. Maintenance therapy or repeat courses of treatment may be required.

During a course of PUVA therapy, the patient needs to be assessed on a regular basis to determine the effectiveness of the therapy and the development of adverse effects. These evaluations are essential to ensure that the exposure dose of radiation is kept to the minimum compatible with adequate control of disease. Therefore, PUVA is generally not recommended for home therapy.

**Background**

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. Although disease severity is minimally defined by body surface area (mild psoriasis affects less than 5% of the body’s surface area, moderate psoriasis affects 5% to 10%, and severe disease affects more than 10% body surface area), lesion characteristics (eg, location and severity of erythema, scaling, induration, pruritus) and impact on quality of life are also taken into account.

Topical therapy (eg, corticosteroids, vitamin D analogs) is generally considered to be first-line treatment of psoriasis, especially for mild disease. Phototherapy and systemic therapy are treatment options for patients with more extensive and/or severe disease and those who fail conservative treatment with topical agents. Phototherapy is available in various forms including exposure to natural sunlight, use of broadband ultraviolet B (BB-UVB) devices, narrowband ultraviolet B (NB-UVB) devices, and psoralen plus ultraviolet A (PUVA). This evidence review addresses 2 treatments: PUVA and targeted phototherapy, which uses ultraviolet light that can be focused on specific body areas or lesions.

**Targeted Phototherapy**

Potential advantages of targeted phototherapy include the ability to use higher treatment doses and to limit exposure to surrounding tissue. BB-UVB devices, which emit wavelengths from 290 to 320 nm, have been largely replaced by 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 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 with 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, because 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% 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 analogs (eg, calcipotriol, calcitriol), tazarotene, and anthralin.

Psoralen Plus Ultraviolet A
PUVA uses a psoralen derivative in conjunction with long wavelength UVA light (sunlight or artificial) for photo chemotherapy of skin conditions. 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 psoralen to the skin with subsequent exposure to UVA light. Bath PUVA is used in some European countries for generalized psoriasis, but the agent used, trimethylpsoralen, is not approved by the Food and Drug Administration. Paint PUVA and soak PUVA are other forms of topical application of psoralen and are often used for psoriasis localized to the palms and soles. In paint PUVA, 8-methoxypsoralen (8-MOP) in 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 psoralen. With topical PUVA, UVA exposure is generally administered within 30 minutes of psoralen application. PUVA has most commonly been used to treat severe psoriasis, for which there is no generally accepted first-line treatment. Each treatment option (eg, systemic therapies such as methotrexate, phototherapy, biologic therapies) has associated benefits and risks. Common minor toxicities associated with PUVA include erythema, pruritus, irregular pigmentation, and gastrointestinal tract symptoms; these generally can be managed by altering the dose of psoralen or UV light. Potential long-term effects include photo-aging and skin cancer, particularly squamous cell carcinoma 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 disease.

Regulatory status
In 2001, XTRAC™ (PhotoMedex), an XeCl excimer laser, was cleared for marketing by the U.S. Food and Drug Administration (FDA) through the 510(k) process for the treatment of mild-to-moderate psoriasis. The 510(k) clearance has subsequently been obtained for a number of targeted UVB lamps and lasers, including newer versions of the XTRAC system (eg, XTRAC Ultra™), the VTRAC™ lamp (PhotoMedex), the BClear™ lamp (Lumenis), and the European manufactured Excilite™ and Excilite µ™ XeCl lamps. FDA product code: FTC.
In 2010, the Levia Personal Targeted Phototherapy® UVB device (Daavlin, Bryan, OH; previously manufactured by Lerner Medical Devices, Los Angeles, CA) was cleared for marketing by FDA through the 510(k) process 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 FDA; both are made by Valeant Pharmaceuticals. Topical psoralen products have also received FDA approval (eg, Oxsoralen; Valeant Pharmaceuticals).

**Rationale/Scientific Background**

This evidence review was originally created in 2001 and has been updated regularly with searches of the MEDLINE database. Most recently, the literature was reviewed through July 2017. Following is a summary of the literature to date.

Assessment of efficacy for therapeutic interventions involves a determination of whether the intervention improves health outcomes. The optimal study design for a therapeutic intervention is a randomized controlled trial (RCT) that includes clinically relevant measures of health outcomes. Nonrandomized comparative studies and uncontrolled studies can sometimes provide useful information on health outcomes, but are prone to biases such as selection bias (eg, noncomparability of treatment groups) and observation bias (eg, placebo effect).

**Targeted Phototherapy**

There are several systematic reviews of the literature on targeted phototherapy. Reviews differed in the type of study included and the comparison interventions. A 2013 systematic review by Almutawa et al considered only RCTs; psoralen plus ultraviolet A (PUVA) was the comparison intervention. The authors identified 3 RCTs comparing the efficacy of targeted ultraviolet B (UVB) phototherapy with PUVA for treatment of plaque psoriasis. Two of the 3 studies used an excimer laser (308 nm) as the source of targeted phototherapy, and the third study used localized narrowband ultraviolet B (NB-UVB) light. There was heterogeneity among studies, and thus a random effects meta-analysis model was used. Using the random effects model, there was not a statistically significant difference between the 2 techniques in the proportion of patients with at least a 75% reduction in psoriasis. The pooled odds ratio (OR) was 3.48 (95% confidence interval [CI], 0.56 to 22.84). (The wide confidence interval indicated a lack of precision in the efficacy estimate.) The trials in the systematic review included a 2006 study by Neumann et al in which 10 patients were treated with a NB-UVB lamp or cream PUVA. The UVB lamp and PUVA-treated sides showed similar gradual clearing over the course of 20 treatments, reaching 64% clearance at the end of the 5-week treatment period. In another trial, Sezer et al (2007) conducted a left-to-right comparison of local NB-UVB versus PUVA paint (3 times/wk for 9 weeks) in a cohort of 25 patients. The mean severity index improved by 61% with local NB-UVB and 85% with PUVA paint; 1 patient dropped out of the study because of a phototoxic reaction in the PUVA-painted treated side.

In 2012, Mudigonda et al published a systematic review of controlled studies (RCTs and non-RCTs) on targeted versus nontargeted phototherapy for patients with localized psoriasis. The authors identified 3 prospective nonrandomized studies comparing the 308 nm excimer laser with NB-UVB; no studies comparing the excimer laser with
broadband ultraviolet B (BB-UVB) or PUVA were identified. Among the 3 studies was a 2006 study by Goldinger et al that compared the excimer laser with full-body NB-UVB in 16 patients. At the end of 20 treatments, Psoriasis Area and Severity Index (PASI) scores were equally reduced on the 2 sides, from a baseline of 11.8 to 6.3 for laser and from 11.8 to 6.9 for nontargeted NB-UVB. A 2005 study by Kollner et al included 15 patients with stable plaque psoriasis. The study compared the 308 nm laser, the 308 nm excimer lamp, and standard TL-01 lamps. One psoriatic lesion per patient was treated with each therapy (ie, each patient received all 3 treatments). Investigators found no significant difference in the efficacy of the 3 treatments after 10 weeks. The mean number of treatments to achieve clearance of lesions was 24.

Another systematic review by Mudigonda et al, published in 2012, included noncontrolled observational studies on targeted UVB phototherapy. This article was not limited to the 308 nm excimer laser as was the 2012 review, previously discussed. A total of 9 studies with at least 7 patients were identified; sample sizes ranged from 7 to 124. The authors concluded that the 308 nm excimer laser, 308 nm excimer nonlaser, and nonexcimer light devices were effective for treating localized psoriasis and were safer than whole body phototherapy because uninvolved skin is spared. The review did not pool study findings and did not evaluate separately studies of different psoriasis severity.

A small 2014 sham-controlled RCT by Levin et al evaluated the Levia targeted NB-UVB device. Although the device can be used at home, in the trial, treatments were provided by experienced photo-therapists in a clinical setting. The study included patients with bilateral plaque-type psoriasis who had symmetric target lesions 2 to 4 cm in diameter. The minimum target lesion score (TLS) was 6, indicating at least moderate severity. (TLS is a 12-point scale that incorporates erythema, lesion thickness, and scaling.) Patients received targeted phototherapy on a randomly selected side of the body and sham (visible light treatment) on the other side. Treatments were given 3 times weekly for 12 weeks. Seventeen (81%) of 21 randomized patients completed the study. The primary end point, percentage of lesions that were clear or almost clear (TLS ≤3) at week 12 did not differ significantly between groups. The end point was attained on 10 treated lesions and 7 sham lesions (p=0.118). Two of 3 pre-specified secondary end points significantly favored active treatment. The percentage improvement in TLS was 43% on the treated side and 29% on the sham side (p=0.043). In addition, 12 lesions in the treated group and 7 in the placebo group had at least 50% improvement, as measured by TLS (p=0.020). However, percentage improvement in pruritus visual analog scale score, 62% on the treated side and 27% on the sham side, did not differ significantly between groups. The study had a relatively high dropout rate but because patients served as their own controls, this is not likely to be a major source of bias.

**Treatment-Resistant Psoriatic Lesions**

Several small studies suggest that targeted phototherapy can be effective for treatment-resistant lesions. One patch comparison reported effective clearing (pre-PASI=6.2; post-PASI=1.0) of treatment-resistant psoriatic lesions; 6 of the patients had previously received topical treatment, 5 had received conventional phototherapy, and 3 had received combined treatments including phototherapy. The same investigator group reported that 12 of 13 patients with “extensive and stubborn” scalp psoriasis
(ie, unresponsive to class I topical steroids used in conjunction with tar and/or zinc pyrithione shampoos for at least 1 month) showed clearing following treatment with the 308 nm laser. In a 2006 open trial from Europe, 44 (81%) of 54 patients with palmoplantar psoriasis resistant to combined phototherapy and systemic treatments were cleared of lesions with only 1 NB-UVB lamp treatment weekly for 8 weeks.

**Section Summary: Targeted Phototherapy**

Several small RCTs and other non-RCTs in patients with moderate-to-severe psoriasis have found that targeted phototherapy has efficacy similar to whole body phototherapy or PUVA. Targeted phototherapy is presumed to be safer or at least no riskier than whole body phototherapy. Several nonrandomized studies have found that targeted phototherapy can improve health outcomes in patients with treatment-resistant psoriasis. One small sham controlled RCT evaluating a targeted NB-UVB device had mixed findings; the primary outcome was statistically nonsignificant.

**Psoralen Plus Ultraviolet A**

Several systematic reviews have been published. As previously noted, Almutawa et al (2015) conducted a pooled analysis of 3 RCTS, 2 of which used an excimer laser, and did not find a statistically significant difference in the efficacy of PUVA and targeted phototherapy in patients with plaque psoriasis. A 2012 industry-sponsored systematic review by Archier et al focused on studies comparing PUVA with NB-UVB in patients with chronic plaque psoriasis. Pooled analysis of 3 RCTs found a significantly higher psoriasis clearance with PUVA compared with NB-UVB (OR=2.79; 95% CI, 1.40 to 5.55). In addition, significantly more patients remained cleared at 6 months with PUVA compared with NB-UVB (OR=2.73; 95% CI, 1.18 to 6.27).

A 2013 systematic review by Almutawa et al identified 8 RCTs that evaluated oral PUVA and reported PASI-75 as an outcome measure. The mean percentage of patients achieving PASI-75 was 73% (95% CI, 56% to 88%). The mean clearance rate in 10 trials of PUVA monotherapy was 79% (95% CI, 68% to 88%). In 4 trials with bath PUVA monotherapy, the mean proportion of patients achieving PASI-75 was 47% (95% CI, 30% to 65%). The authors did not report outcomes in the control groups and thus conclusions cannot be drawn from this analysis on the relative efficacy of PUVA and other psoriasis treatments. A 2013 Cochrane review assessed light therapy for psoriasis. However, that review is less useful for the analysis at hand because the authors combined results of studies using PUVA and BB-UVA, rather than reporting outcomes separately for these 2 treatment modalities.

Representative recent RCTs evaluating PUVA for treating psoriasis are described next.

In 2014, El-Mofty et al in Egypt published an RCT comparing PUVA and BB-UVA in 61 patients with psoriasis affecting at least 30% body surface area. Patients in the BB-UVA group were further randomized to 1 of 2 fixed doses: 10 or 15 J/cm² per session. A maximum of 48 treatment sessions were provided. Clinical outcomes were significantly better in the PUVA group than the BB-UVA groups. For example, complete clearance was obtained by 23 (77%) of 30 patients in the PUVA group, 5 (31%) of 16 patients in the 10 J/cm² UVA group, and 5 (33%) of 15 patients in the 15 J/cm² UVA group (p=0.020).
In 2011, Amirnia et al published a study from Iran in which 88 patients with moderate plaque psoriasis were randomized to receive PUVA or topical steroids. Treatment was continued for 4 months or until clearance was achieved. Clearance was defined as disappearance of at least 90% of baseline lesions. All patients in both groups achieved clearance within the 4-month treatment period. Recurrence (defined as a resurgence of at least 50% of the baseline lesions) occurred significantly more often in the topical steroid group (9/44 [20.5%]) than in the PUVA group (3/44 [6.8%]) (p=0.007).

In 2009, Sivanesan et al published a double-blind RCT evaluating the efficacy of 8-MOP PUVA treatment in patients 18 years and older with moderate-to-severe psoriasis affecting at least 10% body surface area. The study included 40 patients randomly assigned to receive PUVA (n=30) and or UVA plus placebo psoralens (n=10). After washout periods of 2 weeks for topical psoriasis medications and 4 weeks for phototherapy and systemic therapies, patients were treated 3 times weekly for 12 weeks. Twenty-eight patients (70%) completed the study, 21 in the PUVA group and 7 in the UVA plus placebo group. The primary outcome was a 75% or greater improvement in PASI 75 score. In an intention-to-treat analysis with the last observation carried forward to analysis at 12 weeks, 19 (63%) of 30 patients in the PUVA group and 0 (0%) of 10 patients in the UVA plus placebo group achieved PASI 75 (p<0.001). In the per protocol analysis, 18 (86%) of 21 patients in the PUVA group and 0 (0%) of 7 patients in the placebo group achieved PASI 75. There were no serious adverse effects. The trial found a dramatic treatment benefit with PUVA compared with UVA plus placebo; however, there was substantial dropout and no long-term follow-up.

Two RCTs from India compared outcomes after treatment with oral methoxsalen PUVA and NB-UVB. In 2011, Chauhan et al included 51 patients with plaque psoriasis involving more than 20% body surface area. Patients received treatment with NB-UVB or PUVA 3 times weekly. Treatment continued until more than 75% clearance was attained or for a maximum of 16 weeks. Forty-three (84%) of 51 patients completed the study. Marked improvement (>75% clearance) was seen in 17 (91%) of 21 study completers in the NB-UVB group and 18 (82%) of 22 completers in the PUVA group (p>0.05). The mean time to achieve results was also similar in the 2 groups, a mean of 9.9 weeks with each treatment. A 2010 trial by Dayal et al randomly assigned 60 patients with chronic plaque psoriasis to receive twice weekly PUVA (n=30) or twice weekly NB-UVB phototherapy (n=30). After the 3-month treatment period, all patients in both groups had at least 75% clearance of psoriasis or complete clearance. The PASI score did not differ significantly between groups (mean, 1.39 in the PUVA group; mean, 1.61 in the NB-UVB group). The mean number of treatments to achieve clearance, however, was significantly greater in the NB-UVB group than in the PUVA group, 16.4 versus 12.7, respectively.

Section Summary: Psoralen Plus Ultraviolet A
RCTs and systematic reviews of RCTs have found that PUVA is at least as effective as NB-UVB in patients with moderate-to-severe psoriasis. A 2014 RCT found that PUVA was more effective than BB-UVB.

Home Treatment
An alternative to office-based phototherapy is the use of a home ultraviolet B (UVB) photo-therapy unit prescribed by the treating clinician. This option may be preferred by patients who are not in close proximity to an office-based phototherapy center, whose schedules do not permit frequent office visits, or for whom the costs of in-office treatment exceed those of a home phototherapy unit. Home units cost about $3000, but may prove cost-effective in the long term, particularly when compared with biologic therapies.

For some dermatologists, uncertainty regarding the safety of home units has led to a reluctance to prescribe them. Some have expressed concern for the potential for improper or excessive usage of these devices. In contrast, a randomized trial of 196 subjects found that narrowband UVB administered via home units was as safe and effective as office-based treatments. Home phototherapy units that are equipped with electronic controls that allow only a prescribed number of treatments are available and may help to mitigate clinician concerns.

**Ongoing and Unpublished Clinical Trials**
A search of ClinicalTrials.gov in December 2015 did not identify any ongoing or unpublished trials that would likely influence this review.

**Summary of Evidence**
The evidence for targeted phototherapy in patients who have mild psoriasis is limited. Relevant outcomes are symptoms, change in disease status, quality of life, and treatment-related morbidity. Based on this review, evidence is lacking for the use of targeted phototherapy for the first-line treatment of mild psoriasis. The evidence is insufficient to determine the effects of the technology on health outcomes.

The evidence for targeted phototherapy in patients who have moderate-to-severe psoriasis includes randomized controlled trials (RCTs) and systematic reviews. Relevant outcomes are symptoms, change in disease status, quality of life, and treatment-related morbidity. The literature supports the use of targeted phototherapy for the treatment of moderate-to-severe psoriasis comprising less than 20% body surface area for which narrowband ultraviolet B or photo chemotherapy with psoralen plus ultraviolet A (PUVA) are indicated, and for the treatment of mild-to-moderate localized psoriasis that is unresponsive to conservative treatment. The evidence is sufficient to determine qualitatively that the technology results in a meaningful improvement in the net health outcome.

The evidence for PUVA in patients who have moderate-to-severe psoriasis includes RCTs and systematic reviews. Relevant outcomes are symptoms, change in disease status, quality of life, and treatment-related morbidity. Evidence from RCTs suggests that office-based PUVA is at least as effective as narrowband ultraviolet B and broadband ultraviolet A for patients with moderate-to-severe psoriasis. In addition, PUVA for severe treatment-resistant psoriasis is well-accepted and is recommended by the American Academy of Dermatology. The evidence is sufficient to determine qualitatively that the technology results in a meaningful improvement in the net health outcome.

**Supplemental Information**
Practice Guidelines and Position Statements
The American Academy of Dermatology 2010 guideline on the management of psoriasis recommended targeted phototherapy for patients with mild, moderate, or severe psoriasis with less than 10% involvement of the body surface area. Systemic PUVA with ultraviolet A is indicated in adults with generalized psoriasis who are resistant to topical therapy.

Reference Resources

Related Policy

Cosmetic and Reconstructive Procedures

Document Precedence

Blue Cross and Blue Shield of Vermont (BCBSVT) Medical Policies are developed to provide clinical guidance and are based on research of current medical literature and review of common medical practices in the treatment and diagnosis of disease. The applicable group/individual contract and member certificate language determines benefits that are in effect at the time of service. Since medical practices and knowledge are constantly evolving, BCBSVT reserves the right to review and revise its medical policies periodically. To the extent that there may be any conflict between medical policy and contract language, the member’s contract language takes precedence.

Audit Information

BCBSVT reserves the right to conduct audits on any provider and/or facility to ensure compliance with the guidelines stated in the medical policy. If an audit identifies
instances of non-compliance with this medical policy, BCBSVT reserves the right to recoup all non-compliant payments.

**Administrative and Contractual Guidance**

**Benefit Determination Guidance**

Prior approval is required for services as outlined in this policy. Benefits are subject to all terms, limitations and conditions of the subscriber contract.

An approved referral authorization for members of the New England Health Plan (NEHP) is required. A prior approval for Access Blue New England (ABNE) members is required. NEHP/ABNE members may have different benefits for services listed in this policy. To confirm benefits, please contact the customer service department at the member’s health plan.

Federal Employee Program (FEP): Members may have different benefits that apply. For further information please contact FEP customer service or refer to the FEP Service Benefit Plan Brochure. It is important to verify the member’s benefits prior to providing the service to determine if benefits are available or if there is a specific exclusion in the member’s benefit.

Coverage varies according to the member’s group or individual contract. Not all groups are required to follow the Vermont legislative mandates. Member Contract language takes precedence over medical policy when there is a conflict.

If the member receives benefits through an Administrative Services Only (ASO) group, benefits may vary or not apply. To verify benefit information, please refer to the member’s employer benefit plan documents or contact the customer service department. Language in the employer benefit plan documents takes precedence over medical policy when there is a conflict.

**Policy Implementation/Update information**

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<thead>
<tr>
<th>Date</th>
<th>Details</th>
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<tbody>
<tr>
<td>08/2016</td>
<td>New policy. Adopted BCBSA MPRM 2.01.47.</td>
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<tr>
<td>08/2017</td>
<td>Policy statements remain unchanged. Updated coding table with descriptors and added ICD-10 CM code ranged to individual codes.</td>
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</table>

Health Care Procedure Coding System (HCPCS) codes related to chemotherapy drugs, drugs administered other than oral method, and enteral/parenteral formulas may be subject to National Drug Code (NDC) processing and pricing. The use of NDC on medical claims helps facilitate more accurate payment and better management of drug costs based on what was dispensed and may be required for payment. For more information on BCBSVT requirements for billing of NDC please refer to the provider portal [http://www.bcbsvt.com/provider-home](http://www.bcbsvt.com/provider-home) latest news and communications.
Eligible providers
Qualified healthcare professionals practicing within the scope of their license(s).

Approved by BCBSVT Medical Directors  Date Approved

Gabrielle Bercy-Roberson, MD, MPH, MBA
Senior Medical Director
Chair, Health Policy Committee

Joshua Plavin, MD, MPH, MBA
Chief Medical Officer

Attachment I
Code Table & Instructions

<table>
<thead>
<tr>
<th>Code Type</th>
<th>Number</th>
<th>Description</th>
<th>Policy Instructions</th>
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<tbody>
<tr>
<td>CPT®</td>
<td>96900</td>
<td>Actinotherapy (ultraviolet light)</td>
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<td>CPT®</td>
<td>96912</td>
<td>Photochemotherapy; psoralens, and ultraviolet A (PUVA)</td>
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<td>Laser treatment for inflammatory skin disease (psoriasis); total area 250-500 sq cm</td>
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<td>HCPCS</td>
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<td>Ultraviolet light therapy system, includes bulbs/lamps, timer and eye protection; treatment area 2 square feet or less</td>
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<td>Ultraviolet light therapy system panel, includes bulbs/lamps, timer and eye protection, 4 foot panel</td>
<td>Prior Approval is not required when the purchase price is under the outlined thresholds</td>
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<tr>
<td>HCPCS</td>
<td>E0693</td>
<td>Ultraviolet light therapy system panel, includes bulbs/lamps, timer and eye protection, 6 foot panel</td>
<td>Prior Approval is not required when the purchase price is under the outlined thresholds</td>
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<tr>
<td>HCPCS</td>
<td>E0694</td>
<td>Ultraviolet multidirectional light therapy system in 6 foot cabinet, includes bulbs/lamps, timer and eye protection</td>
<td>Prior Approval is not required when the purchase price is under the outlined thresholds</td>
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<tr>
<td>HCPCS</td>
<td>J8999</td>
<td>Prescription drug, oral, chemotherapeutic, not otherwise specified</td>
<td>Unlisted code will suspend for medical review</td>
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<table>
<thead>
<tr>
<th>Code Type</th>
<th>Number</th>
<th>Description</th>
<th>Policy Instruction</th>
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<tbody>
<tr>
<td>ICD-10-CM</td>
<td>L40.0</td>
<td>Psoriasis vulgaris</td>
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<tr>
<td>ICD-10-CM</td>
<td>L40.1</td>
<td>Generalized pustular psoriasis</td>
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<td>ICD-10-CM</td>
<td>L40.2</td>
<td>Acrodermatitis continua</td>
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<td>ICD-10-CM</td>
<td>L40.3</td>
<td>Pustulosis palmaris et plantaris</td>
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<td>ICD-10-CM</td>
<td>L40.4</td>
<td>Guttate psoriasis</td>
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<td>ICD-10-CM</td>
<td>L40.50</td>
<td>Arthropathic psoriasis, unspecified</td>
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<td>ICD-10-CM</td>
<td>L40.51</td>
<td>Distal interphalangeal psoriatic arthropathy</td>
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<td>ICD-10-CM</td>
<td>L40.52</td>
<td>Psoriatic arthritis mutilans</td>
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<td>ICD-10-CM</td>
<td>L40.53</td>
<td>Psoriatic spondylitis</td>
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<td>ICD-10-CM</td>
<td>L40.54</td>
<td>Psoriatic juvenile arthropathy</td>
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<td>ICD-10-CM</td>
<td>L40.59</td>
<td>Other psoriatic arthropathy</td>
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<td>ICD-10-CM</td>
<td>L40.8</td>
<td>Other psoriasis</td>
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<td>ICD-10-CM</td>
<td>L40.9</td>
<td>Psoriasis, unspecified</td>
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