Clinical Practice Guideline: **Phototherapy (Ultraviolet Light and Actinotherapy)**

Date of Implementation: **December 16, 2016**

Product: **Specialty**

Related Policies:
CPG 135: Physical Therapy Medical Policy/Guideline
CPG 156: Wound Care

GUIDELINES

American Specialty Health, Inc. (ASH) considers Ultraviolet Light B (UVB) phototherapy, Narrowband UVB, Laser UVB, or photochemotherapy (PUVA) treatment medically necessary for the following conditions only when they have not responded to other forms of conservative treatment or forms of conservative treatment are contraindicated:

1. Severely disabling psoriasis (Oxsoralen is the only psoralen derivative eligible for treatment of psoriasis. All others are considered experimental and investigational.)
2. Parapsoriasis
3. Atopic dermatitis/eczema
4. Lichen planus
5. Urticaria pigmentosa
6. Chronic recalcitrant dermatitis
7. Pruritus of renal or hepatic disease
8. Vitiligo on face or neck
9. Polymorphic light eruptions
10. Sclerotic skin disease

ASH considers Ultraviolet Light B (UVB) phototherapy, Narrowband UVB, Laser UVB, or photochemotherapy (PUVA) treatment as medically necessary for initial treatment of mycosis fungoides (cutaneous T-cell lymphoma Stage I and II).

ASH considers Goeckerman therapy medically necessary for the treatment of:

1. Severely disabling psoriasis
2. Atopic dermatitis/eczema

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

- Moderate to severe localized psoriasis (i.e., comprising less than 20% body area) for which NB-UVB or PUVA are indicated

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- Mild to moderate localized psoriasis that is unresponsive to conservative treatment

Targeted phototherapy is considered unproven for the first-line treatment of mild psoriasis and for treatment of generalized psoriasis or psoriatic arthritis. There is insufficient evidence to support a conclusion concerning the health outcomes or benefits associated with this procedure for these indications.

Targeted phototherapy is considered unproven for the treatment of vitiligo. There is insufficient evidence to support a conclusion concerning the health outcomes or benefits associated with this procedure for this indication.

ASH considers home UV light (only UVB) medically necessary for patients who have chronic or recalcitrant disease requiring long term maintenance exceeding four months for the following conditions:

1. Severely disabling psoriasis
2. Atopic dermatitis/eczema
3. Pruritus of renal or hepatic disease

For the home therapy device to be allowed, all of the following criteria must be met:

1. Patient must meet criteria above
2. Patient's condition must be chronic
3. Device must be ordered by a physician
4. Device must be approved by the FDA
5. Device must be appropriate for the body area to be treated

ASH considers Phototherapy of any kind not medically necessary for the following conditions given lack of demonstration of effectiveness over placebo:

1. Jet lag
2. Work shift disorders
3. Delayed or altered sleep phase disorders
4. Circadian rhythm disorders

Note: Circadian rhythm disorders: The human body functions slightly differently at different times of day and night, according to an approximate 24-hour cycle. For example, the body's level of the natural hormone, cortisol, rises and falls at different times of the day. As well, a person's performance at some tasks is better at certain times of the day. Circadian rhythm is a term for the body's natural 24-hour cycle. Disturbance of the natural rhythm may show up as problems sleeping and waking at usual times.

ASH considers PUVA therapy as not medically necessary when any of the following exist:

1. Pregnancy
2. History or presence of melanoma or other skin cancer
3. History of arsenic or ionizing radiation exposure
4. Those conditions worsened by UV light: lupus, xeroderma pigmentosum, albinism, porphyria, cataracts, aphakia, severe heart, kidney or liver disease, certain immunocompromised diseases, and patients allergic to this form of light

CPT CODES AND DESCRIPTIONS

CPT® Code	CPT® Code 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)
97028	Application of a modality to 1 or more areas; ultraviolet

BACKGROUND AND DESCRIPTION

Many skin diseases respond to treatment with medications applied directly to the skin, or medications taken orally. In some difficult to treat skin disorders, ultraviolet light is prescribed as therapy. While in general, ultraviolet light is damaging to the skin, some diseases may show benefit from ultraviolet exposure. The use of UV light therapy has been shown to provide significant health outcome improvements when used to treat a wide variety of skin disorders, including psoriasis. However, the use of UVA and UVB light therapy carries a significant risk of sunburn and increased skin cancer risk. The supervision of a physician is needed to make sure that the dose of UV light delivered to the treatment area is in the therapeutic range but does not exceed safe levels. To make the skin even more sensitive to the ultraviolet rays, a pill called a psoralen is sometimes taken (the opposite effect of a sunscreen). Once the psoralen is absorbed into the body, it makes the skin cells

more susceptible to Ultraviolet-A (UV-A) light. The combination of psoralen pill and UV-A light is called photochemotherapy, or PUVA. The light is usually shone inside a booth, either in a hospital or clinic, to part or all of the body. While it is not known exactly how it works, there is first mild damage to the skin (like a sunburn) followed by healing of the skin later. Ultraviolet-B (UV-B) is a different wavelength of light used to treat some of the same skin disorders as UV-A. UV-B booths can be installed in the home setting. Goeckerman treatment involves either painting effected areas with a solution of coal tar or covering them with crude coal tar ointment and subsequently irradiating with ultraviolet (UV-B) light.

The majority of individuals undergoing UV treatment can be treated in the office. However, some individuals require treatments at a frequency that makes office visits overly burdensome. Home therapy with UVB light is an alternative. Concerns regarding over-exposure to unsafe levels of UVB radiation in the home setting have been addressed with the evolution of integrated security features such as keys, pass codes, etc. Routine clinical evaluation should be conducted to ensure that exposure is kept to the minimum level compatible with adequate control of disease and the prevention of complications.

Topical therapy (e.g., 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 (NB)-UVB devices and psoralen plus ultraviolet A (PUVA). 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) 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 photoaging 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.

Treatment options for vitiligo recalcitrant to first-line therapy include, among others, psoralens with ultraviolet A and targeted light therapy. PUVA uses a psoralen derivative in conjunction with long wavelength ultraviolet A light (sunlight or artificial) for photochemotherapy 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. With topical PUVA, UVA exposure is generally administered within 30 minutes of psoralen application.

EVIDENCE REVIEW

Psoriasis

Koek et al. (2009) conducted a randomized controlled single-blind trial comparing office-based UVB treatment with home therapy for individuals with plaque or guttate psoriasis. This study involved 196 subjects who were evaluated through the initial therapy, with the first 105 subjects followed for an additional 12 months post-treatment. The authors reported that both treatments provided significant improvement from baseline, with home therapy being non-inferior to office-based treatment as measured by the psoriasis area and severity index (PASI) and the self-psoriasis area and severity index (SAPASI). No significant differences between groups were reported with regard to total cumulative radiation dose or short-term side effects. Several systematic reviews have been published. In 2009, Sivanesan et al. published a double-blind RCT evaluating the efficacy of 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 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. 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. In 2011, Amirnia et al. published a study 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.

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. In addition, significantly more patients remained cleared at 6 months with PUVA compared with NB-UVB. Mudigonda et al. (2012) published a systematic review of controlled studies (RCTs and non-RCTs) on targeted versus nontargeted phototherapy for patients with localized psoriasis. 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 2013 Cochrane review assessed light therapy for psoriasis. The authors combined results of studies using PUVA and BB-

UVB, rather than reporting outcomes separately for these 2 treatment modalities. Chen et al. (2013) assessed the effects of narrow-band ultraviolet B phototherapy versus broad-band ultraviolet B or psoralen ultraviolet A photochemotherapy for psoriasis. The most commonly used types of phototherapy for treating psoriasis are narrow-band ultraviolet B (NB-UVB); broad-band ultraviolet B (BB-UVB), which includes selective (delivering radiation with a wavelength range of 305 to 325 nm) and conventional BB-UVB (280 to 320 nm); and psoralen ultraviolet A photochemotherapy (oral or bath PUVA). Authors noted there is substantial controversy regarding their efficacy when compared with each other. Authors conclude that at that time, the current evidence is very heterogeneous and needs to be interpreted with caution. The clearance rate between oral PUVA and NB-UVB is inconsistent among the included studies. Evidence regarding NB-UVB versus bath PUVA was also inconsistent. Re-NB-UVB and re-PUVA are similarly effective for treating people with CPP or GP. Larger prospective studies are needed to confirm the long-term safety of NB-UVB. 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. There was heterogeneity among studies, and there was not a statistically significant difference between the two techniques in the proportion of patients with at least a 75% reduction in psoriasis. Almutawa et al. (2015) did not find a statistically significant difference in the efficacy of PUVA and targeted phototherapy in patients with plaque psoriasis. In 2019, the American Academy of Dermatology and the National Psoriasis Foundation released a joint guideline recommending targeted UVB phototherapy, including excimer, for use in adults with localized plaque psoriasis. Treatment should occur 2-3 times per week (Elmets, et al., 2019). The American Academy of Dermatology and the National Psoriasis Foundation issued a joint guideline on the management of psoriasis in pediatric patients that recommends the use of narrowband UVB is recommended as a treatment option for moderate to severe plaque and guttate psoriasis in the pediatric population. PUVA may be beneficial but has limited supporting evidence (Menter, et al., 2020).

Li et al. (2022) compared the clinical efficacy and adverse events (AEs) of different UV-based phototherapy in psoriasis. Thirty-two studies involving a total of 2120 psoriasis patients were included in this network meta-analysis. Overall, no significant difference was reported with respect to withdrawal due to AEs or incidence of erythema. The relatively safest strategy was combined adjuvant therapy with PUVA (cPUVA), especially PUVA combined with calcium/vitamin D derivatives. Both cPUVA and combined adjuvant therapy with UVB (cUVB) showed a superior effect than the monotherapy of UVA or UVB, respectively. PUVA combined with vitamin D and its derivatives (PAVD) ranked highest concerning clinical effect and safety. Authors concluded that the efficacy of all the combination therapy regimens was significantly superior to that of UV monotherapy, without significant differences in tolerability and safety. cUVB and cPUVA, and

particularly the combination of UVA with calcium/vitamin D derivatives, was ranked as the overall safest and most effective phototherapy method.

In a 2022 guideline (Goulden, et al., 2022), the British Association of Dermatologists and British Photodermatology Group included the following recommendations for the safe and effective use of narrowband UVB:

- "Offer NB-UVB to people with psoriasis who have an inadequate response to topical therapy, or when topical therapy is not suitable, prior to offering systemic immunosuppression or immunomodulation therapies, including psoralen plus ultraviolet A (PUVA)."
- "Consider adding NB-UVB to a selected systemic psoriasis treatment (i.e. acitretin, methotrexate, fumaric acid esters, apremilast or biologics) as a short-term rescue therapy to control flares, if psoriasis is normally well controlled on these treatments." • "Consider combination therapy of NB-UVB and acitretin in adults and young people with severe chronic psoriasis, but this must be avoided in anyone of childbearing potential."
- "Offer NB-UVB (whole body or localized, e.g. homebased handheld) as first-line phototherapy to people with vitiligo who have an inadequate response to topical therapy and/or have extensive or progressive disease. As a prolonged course is generally required, discuss the risk–benefit ratio, particularly for children. This may be combined with a calcineurin antagonist (more evidence for tacrolimus) or intermittent potent topical corticosteroid, on localized sites for a time period appropriate to the body site."
- "Consider oral steroids (see vitiligo guidelines for specific treatment protocol)6 in combination with NB-UVB in people with rapidly progressive vitiligo to arrest activity of the disease, after careful consideration of risks and benefits."

Mycosis Fungoides (MF)

Both ultraviolet A (UVA) and ultraviolet B (UVB) light have documented efficacy for treating MF (Abe et al., 2003; Querfeld et al., 2005) and response is typically seen in 3 to 6 months. Phototherapy is typically administered three times weekly; however, patients may receive UVB daily if necessary. The exposure time/dose of ultraviolet light is increased with each sequential treatment. Once a response is seen, the exposure time is maintained, and the frequency of treatment is slowly titrated downward to once per week or every other week. No standard recommendation for maintenance therapy exists, and this varies from center to center. UVB is most effective for MF when the skin lesions consist of non-raised or barely raised lesions. UVA is required if the lesions are thick, because the shorter wavelengths of UVB do not penetrate to the depth that would be necessary for more infiltrated lesions.

In a Cochrane Review (Valipour et al., 2020) authors conclude that there is a lack of high-certainty evidence to support decision making in the treatment of MF. Because of substantial heterogeneity in design, missing data, small sample sizes, and low methodological quality, the comparative safety and efficacy of these interventions cannot be reliably established on the basis of the included RCTs. PUVA is commonly recommended as first-line treatment for MF, and we did not find evidence to challenge this recommendation. There was an absence of evidence to support the use of intralesional IFN-α or bexarotene in people receiving PUVA and an absence of evidence to support the use of acitretin or ECP for treating MF. Future trials should compare the safety and efficacy of treatments to PUVA, as the current standard of care, and should measure quality of life and common adverse effects.

In a 2021 guideline for the management of people with vitiligo (Eleftheriadou, et al., 2022), the British Association of Dermatologists provided the following:

- "Offer NB-UVB to people with mycosis fungoides for treatment of patches or plaques; however, PUVA is more effective for thicker plaques of mycosis fungoides."

The National Cancer Institute (2023) lists PUVA and UVB phototherapy as treatment options for mycosis fungoides and Sezary syndrome with early cutaneous stages achieving the best responses. Treatment options depend on the stage of the disease. In their guidelines for the treatment of primary cutaneous lymphomas, the National Comprehensive Cancer Network® (NCCN®) (2023) lists phototherapy as treatment options for mycosis fungoides and Sezary syndrome recommending UVB and nbUVB for limited or localized skin involvement and UVB, nbUB, PUVA, or UVA1 for the treatment of generalized skin involvement. Treatment varies based on the disease stage.

Pruritus

Pruritus of hepatic disease and renal failure are difficult to treat. Management is primarily focused on the treatment of the underlying symptoms such as pain and itching. There are several treatment options currently used, and the UVB phototherapy has become widely accepted as an important tool in the management of these conditions (Wang, 2010). Bulur et al. (2018) evaluated the effectiveness and reliability of phototherapy in this group. This study included 95 patients of 65 years of age and older who were treated in our phototherapy unit between 2006 and 2015. The data for this study were collected retrospectively from patient follow-up forms in the phototherapy unit. Phototherapy was administered to 28 (29.5%) patients for mycosis fungoides, 25 (26.3%) patients for plaque type psoriasis, 12 (12.6%) patients for palmoplantar psoriasis, 12 (12.6%) patients for generalized pruritus, and 18 (19%) for other dermatoses. Of the patients, 64.2% had received a narrowband UVB (NB-UVB), 21.1% oral psoralen UVA (PUVA), and 14.7% local PUVA treatment. A complete response was achieved in 76.9-85.7% of the mycosis fungoides and in 73.71-100% of the psoriasis vulgaris patients treated with NB-UVB and

PUVA, respectively. All the patients with generalized pruritus were treated with NB-UVB, and 80% of these patients achieved significant improvement. The erythema rate was found to be 0.43% per session for NB-UVB treatment and 0.46% per session for PUVA treatment as a side effect.

In a 2021 guideline for the management of people with vitiligo (Eleftheriadou, et al., 2022), the British Association of Dermatologists provided the following:

- "Offer NB-UVB to people with pruritus associated with severe kidney disease where other interventions have failed or are not appropriate." • "Consider NB-UVB in people with idiopathic or secondary pruritus (when the underlying cause cannot be corrected), who have an inadequate response to topical therapy."

Vitiligo

The evidence base regarding home-based UVA treatment for vitiligo is currently small and low quality. Shan and colleagues (2014) published early results of UVB home phototherapy for vitiligo in a prospective uncontrolled trial (*n*=93). Treatments were administered 3 times each week at variable dosages. Follow-up was conducted every 3 months up to 1 year to evaluate repigmentation and any complications. At 1 year of follow-up, 35 subjects (38%) achieved excellent repigmentation, 16 (17%) achieved good repigmentation, 15 (16%) showed moderate repigmentation, 16 (17%) had poor repigmentation, and 11 (12%) had no repigmentation. A total of 25 (27%) individuals discontinued treatment due to poor repigmentation. This study was hampered by several design limitations, including a lack of randomization, and lack of appropriate comparator groups. Additional well-designed RCTs are necessary to evaluate the safety and efficacy of home-based UVB phototherapy devices compared with in-office or alternative treatments for vitiligo. Whitton et al. (2015) assessed the effects of all therapeutic interventions used in the management of vitiligo. This update of the 2010 review includes 96 studies, 57 from the previous update and 39 new studies, for a total of 4512 participants. Most of the studies, covering a wide range of interventions, had fewer than 50 participants. Most of the studies assessed combination therapies which generally reported better results. Authors performed one meta-analysis of three studies, in which we found a non-significant 60% increase in the proportion of participants achieving >75% repigmentation in favor of NB-UVB compared to PUVA. Studies assessing topical preparations, in particular topical corticosteroids, reported most adverse effects. However, in combination studies it was difficult to ascertain which treatment caused these effects. This review has found some evidence from individual studies to support existing therapies for vitiligo, but the usefulness of the findings is limited by the different designs and outcome measurements and lack of quality of life measures. There is a need for follow-up studies to assess permanence of repigmentation as well as high- quality randomized trials using standardized measures, and which also address quality of life.

In a 2021 guideline for the management of people with vitiligo (Eleftheriadou, et al., 2022), the British Association of Dermatologists provided the following:

- "Offer a potent or very potent topical corticosteroid once daily, to minimize potential side effects, to people with vitiligo as the first-line treatment in primary or secondary care, avoiding the periocular area (Strong recommendation for the use of an intervention).
- Consider topical tacrolimus 0.1% ointment twice daily in people with facial vitiligo as an alternative to potent or very potent topical corticosteroids (Weak recommendation for the use of an intervention).
- Offer NB-UVB (whole body or localized, e.g. home based handheld) as first-line phototherapy to people with vitiligo who have an inadequate response to topical therapy and/or who have extensive or progressive disease. As a prolonged course is generally required, discuss the risk-benefit ratio, particularly for children. This may be combined with topical calcineurin inhibitor† (more evidence for tacrolimus) or potent topical corticosteroid, for localized sites. Counsel patients on the significant risk of loss of response upon treatment cessation (Strong recommendation for the use of an intervention).
- Only consider PUVA or PUVAsol in adults with vitiligo if treatment with NB-UVB is unavailable or has been ineffective (Weak recommendation for the use of an intervention).
- There is insufficient evidence to recommend combination treatment of potent or very potent topical steroid with NBUVB plus CO2 laser for people with vitiligo (No recommendation)."

Atopic Dermatitis (AD)/Eczema (AE)

Dennis et al. (2013) found that the Goeckerman regimen was effective in treating patients with severe baseline disease, inducing a mean remission period of 7.2 months. The treatment was tolerated well with mild folliculitis and occasional ultraviolet B phototoxicity noted as the only adverse reactions. Since the use of Goeckerman as a treatment for severe eczema is both effective and safe, it should be considered an excellent alternative or adjunct to the systemic therapies currently being used. Garritsen et al., (2014) evaluated the effect of treatment with photo (chemo) therapy in patients with AD and to make treatment recommendations on basis of the evidence. Nineteen studies were included (905 participants). The identified RCTs were generally clinically and qualitatively heterogeneous. Conclusions must be drawn carefully because of small sample sizes, varying study quality and sometimes the absence of direct comparisons, but on the basis of the included evidence, ultraviolet (UV) A1 and narrowband (NB)-UVB appeared the most effective treatment modalities for the reduction of clinical signs and symptoms. UVAB was shown to be more effective than UVA and broadband-UVB for the improvement of clinical symptoms, but not compared with UVA1. Other effective treatment options include full-spectrum light, psoralen plus UVA and balneo-phototherapy. No serious side-effects were

reported. Authors concluded that phototherapy can be a valid therapeutic option for patients with AD, however further well-designed, adequately powered RCTs are required.

Musters et al. (2021) assessed the effects of phototherapy for treating AE. They included randomised controlled trials in adults or children with any subtype or severity of clinically diagnosed AE. Eligible comparisons were any type of phototherapy versus other forms of phototherapy or any other treatment, including placebo or no treatment. 32 trials with 1219 randomised participants were included, aged 5 to 83 years (mean: 28 years), with an equal number of males and females. Participants were recruited mainly from secondary care dermatology clinics, and study duration was, on average, 13 weeks (range: 10 days to one year). Assessed interventions included: narrowband ultraviolet B (NB-UVB; 13 trials), ultraviolet A1 (UVA1; 6 trials), broadband ultraviolet B (BB-UVB; 5 trials), ultraviolet AB (UVAB; 2 trials), psoralen plus ultraviolet A (PUVA; 2 trials), ultraviolet A (UVA; 1 trial), unspecified ultraviolet B (UVB; 1 trial), full spectrum light (1 trial), Saalmann selective ultraviolet phototherapy (SUP) cabin (1 trial), saltwater bath plus UVB (balneophototherapy; 1 trial), and excimer laser (1 trial). Comparators included placebo, no treatment, another phototherapy, topical treatment, or alternative doses of the same treatment. Authors concluded that compared to placebo or no treatment, NB-UVB may improve physician-rated signs, patient-reported symptoms, and Investigator Global Assessment (IGA) after 12 weeks, without a difference in withdrawal due to adverse events. Evidence for UVA1 compared to NB-UVB or PUVA, and NB-UVB compared to PUVA was very low certainty. More information is needed on the safety and effectiveness of all aspects of phototherapy for treating AE.

In a 2021 position paper on the management of itch and pain in atopic dermatitis (Misery, et al., 2021), the International Society of Atopic Dermatitis and the Oriented Patient-Education Network in Dermatology task force stated that ultraviolet light therapy is a well-established treatment option that is effective in both the acute stage of atopic dermatitis and in cases of chronic itch.

In a 2021 guideline for the management of people with vitiligo (Eleftheriadou, et al., 2022), the British Association of Dermatologists provided the following:

- "Offer NB-UVB as first-line phototherapy to people with eczema who have an inadequate response to topical therapy alone, prior to offering systemic immunosuppression or immunomodulation therapies, including PUVA."
- "Stabilize severe, acute flares of eczema prior to commencing NB-UVB therapy by optimizing topical therapy, the use of systemic corticosteroids and/or antibiotics as appropriate."
- "Consider adding NB-UVB to methotrexate or another suitable systemic immunomodulatory medication (avoid with ciclosporin, mycophenolate,

azathioprine and tacrolimus) as a short-term rescue therapy to control flares, if eczema is normally well controlled on these treatments."

Sclerotic Skin Disease

Teske and Jacobe (2016) summarized phototherapy as an effective treatment strategy for a variety of sclerosing skin conditions. There are a number of phototherapeutic modalities used for the treatment of sclerosing skin conditions, including ultraviolet (UV) A1, broadband UVA, psoralen plus UVA, and narrowband UVB phototherapy. As controlled trials with validated outcome measures are lacking for these therapies, existing evidence is largely level II for morphea and is even more minimal for scleroderma and other sclerosing disorders (scleroderma, lichen sclerosus, and chronic graft-versus-host disease, among others). Studies do suggest that phototherapy may be effective for many of these disorders, including those that have been unresponsive to other therapies. Phototherapy remains an attractive therapeutic option for patients due to its efficacy and favorable risk-versus-benefit profile. Phototherapy also offers a therapeutic alternative to systemic immunosuppressives for patients who cannot tolerate these medications.

In a 2021 guideline for the management of people with vitiligo (Eleftheriadou, et al., 2022), the British Association of Dermatologists provided the following:

- "Consider NB-UVB in people with morphoea (localized scleroderma) when an alternative and more effective phototherapy or systemic therapy is not available or is contraindicated."

Lichen Planus

In a 2021 guideline for the management of people with vitiligo (Eleftheriadou, et al., 2022), the British Association of Dermatologists provided the following:

- "Consider NB-UVB in people with cutaneous lichen planus who have an inadequate response to topical therapy."

Weber et al. (2022) compared the efficacy and safety of different phototherapeutic modalities in the treatment of cutaneous lichen planus (LP). Fifty patients completed a full treatment course. The percentage of patients with a complete (>90% clearing) or good (51%-90% clearing) response was similar for NB-UVB versus PUVA (86.2% vs. 90.5%; P = 1.00). The number of exposures required for obtaining a complete or good response was also comparable for both treatment groups (NB-UVB: 28.9 ± 12.3 vs. PUVA: 25.4 ± 10.1; P = .209). Adverse events, in particular gastrointestinal upsets, were recorded in 26.1% of patients treated with oral PUVA while none were observed with NB-UVB. Authors concluded that the therapeutic outcome and the number of treatments required for achieving a complete or good response were comparable for NB-UVB and PUVA; however, PUVA therapy was associated with a substantially higher rate of moderate adverse events.

PRACTITIONER SCOPE AND TRAINING

Practitioners should practice only in the areas in which they are competent based on their education, training and experience. Levels of education, experience, and proficiency may vary among individual practitioners. It is ethically and legally incumbent on a practitioner to determine where they have the knowledge and skills necessary to perform such services and whether the services are within their scope of practice.

It is best practice for the practitioner to appropriately render services to a member only if they are trained, equally skilled, and adequately competent to deliver a service compared to others trained to perform the same procedure. If the service would be most competently delivered by another health care practitioner who has more skill and training, it would be best practice to refer the member to the more expert practitioner.

Best practice can be defined as a clinical, scientific, or professional technique, method, or process that is typically evidence-based and consensus driven and is recognized by a majority of professionals in a particular field as more effective at delivering a particular outcome than any other practice (Joint Commission International Accreditation Standards for Hospitals, 2020).

Depending on the practitioner's scope of practice, training, and experience, a member's condition and/or symptoms during examination or the course of treatment may indicate the need for referral to another practitioner or even emergency care. In such cases it is prudent for the practitioner to refer the member for appropriate co-management (e.g., to their primary care physician) or if immediate emergency care is warranted, to contact 911 as appropriate. See the *Managing Medical Emergencies (CPG 159 – S)* clinical practice guideline for information.

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