Clinical Policy Title: Vitiligo dermatology treatment

Clinical Policy Number: 16.02.08

Effective Date: June 1, 2017
Initial Review Date: April 19, 2017
Most Recent Review Date: May 19, 2017
Next Review Date: May 2018

Related policies:
CP# 16.01.06 Vitiligo and psoriasis

ABUT THIS POLICY: AmeriHealth Caritas Louisiana has developed clinical policies to assist with making coverage determinations. AmeriHealth Caritas Louisiana’s clinical policies are based on guidelines from established industry sources, such as the Centers for Medicare & Medicaid Services (CMS), state regulatory agencies, the American Medical Association (AMA), medical specialty professional societies, and peer-reviewed professional literature. These clinical policies along with other sources, such as plan benefits and state and federal laws and regulatory requirements, including any state- or plan-specific definition of “medically necessary,” and the specific facts of the particular situation are considered by AmeriHealth Caritas Louisiana when making coverage determinations. In the event of conflict between this clinical policy and plan benefits and/or state or federal laws and/or regulatory requirements, the plan benefits and/or state and federal laws and/or regulatory requirements shall control. AmeriHealth Caritas Louisiana’s clinical policies are for informational purposes only and not intended as medical advice or to direct treatment. Physicians and other health care providers are solely responsible for the treatment decisions for their patients. AmeriHealth Caritas Louisiana’s clinical policies are reflective of evidence-based medicine at the time of review. As medical science evolves, AmeriHealth Caritas Louisiana will update its clinical policies as necessary. AmeriHealth Caritas Louisiana’s clinical policies are not guarantees of payment.

Coverage policy

AmeriHealth Caritas Louisiana considers vitiligo to be a remediable medical condition, and the use of treatments specified in this policy to be clinically proven and, therefore, medically necessary when the following criteria are met:

- Diagnosis is made of vitiligo by a primary care or specialty physician knowledgable in the diagnosis (i.e., clinical evaluation, skin biopsy) and treatment of these conditions.
- Treatment administered is an established method of care for vitiligo:
  - Excimer laser (e.g., XTRAC, PhotoMedex, Radnor, Pennsylvania; EX-308, Ra Medical Systems Inc., Carlsbad, California).
  - Narrow-band ultraviolet B (UVB).
  - Topical and oral psoralen photochemotherapy (PUVA).
  - Topical tacrolimus.
  - Topical and systemic corticosteroids.
Limitations:

All other treatments for vitiligo are considered to be investigational and, therefore, not medically necessary.

Alternative covered services:

Primary care and specialty physician (including surgical) evaluation and management.

Background

Vitiligo is an acquired depigmentary disorder characterized by white areas on the skin due to the loss of functional melanocytes.

Excimer laser, in which “excimer” is a terminological reference of “excited dimer,” composed of a noble gas and halide (e.g., xenon and chloride) that repel each other, is a promising therapeutic choice though laser therapy in general is often compromised by complete or partial response. The advantages of monochromatic 308 nm excimer laser over other phototherapies include lower ultraviolet (UV) dose exposure, shorter course of therapy, and precise definition of treatment area, which helps prevent compromise of the adjacent normal skin.

Medium doses of the 308-nm excimer laser have proven effective in the treatment of limited vitiligo; however, the rate and speed of repigmentation is highly associated with the site and duration of disease as the face and neck (UV-sensitive areas) are the highly respondent areas, along with an earlier resolution of the lesions, while the joints and extremities (UV-resistant areas) exhibit the slightest response to therapy.

Topical and oral corticosteroids are among several therapeutic agents that have efficacy in this disorder. Very potent topical steroids are widely used to treat vitiligo, but the evidence for their effectiveness is limited. Folliculitis is a common side effect of treatment with potent topical steroids. Long-term daily treatment with oral corticosteroids, in most patients, requires continued treatment to maintain response and benefit is usually insufficient to justify the risks.

Photochemotherapy with psoralen plus ultraviolet A (UVA) has demonstrated therapeutic responses but the relapse rate following treatment is high, and continued treatment is usually needed to maintain control, which may lead to an unacceptably high cumulative UVA dose. Tacrolimus also has shown variable response in the treatment of vitiligo.

Searches

AmeriHealth Caritas Louisiana searched PubMed and the databases of:

- UK National Health Services Centre for Reviews and Dissemination.
• Agency for Healthcare Research and Quality’s National Guideline Clearinghouse and other evidence-based practice centers.
• The Centers for Medicare & Medicaid Services (CMS).

We conducted searches on April 10, 2017. Search terms were: “vitiligo and psoriasis,” “vitiligo,” and “psoriasis.”

We included:

• **Systematic reviews**, which pool results from multiple studies to achieve larger sample sizes and greater precision of effect estimation than in smaller primary studies. Systematic reviews use predetermined transparent methods to minimize bias, effectively treating the review as a scientific endeavor, and are thus rated highest in evidence-grading hierarchies.

• **Guidelines based on systematic reviews.**

• **Economic analyses**, such as cost-effectiveness, and benefit or utility studies (but not simple cost studies), reporting both costs and outcomes — sometimes referred to as efficiency studies — which also rank near the top of evidence hierarchies.

**Findings**

Mehraban (2014) conducted a systematic review of the 308 nm xenon-chloride excimer laser in treatment of dermatologic disorders and reported verified efficacy in treating skin conditions such as vitiligo, psoriasis, atopic dermatitis, alopecia areata, allergic rhinitis, folliculitis, granuloma annulare, lichen planus, mycosis fungoides, palmoplantar pustulosis, pityriasis alba, CD30+ lympho proliferative disorder, leukoderma, prurigo nodularis, and localized scleroderma and genital lichen sclerosus.

Wang (2014) treated 170 patients with the 308 nm excimer laser to assess its efficacy and safety for the treatment of vitiligo. The lesions of vitiligo were treated one to two times per week for 10 to 30 treatments. Efficacies were evaluated every seven days and three days after the treatments were completed. Patients were followed up for two months. The rates of "remarkably improved" and "cured" were 67.97 percent and 32.03 percent in faces, 54.55 percent and 27.27 percent in necks, 63.26 percent and 26.53 percent in trunks, 38.84 percent and 15.70 percent in limbs, and 0 percent and 0 percent in hands and feet. The areas of faces had a better response than those of necks, trunks, or limbs (P < 0.01), and the areas of trunks or limbs had better response than those of hands and feet (P < 0.01). The authors concluded that the 308 nm excimer laser is safe and effective in treating stable vitiligo and the efficacy varies in different lesion sites.

Shen (2007), treated a total of 187 patients with the 308-nm excimer laser for 20 sessions at different frequencies (0.5, 1.0, 2.0, and 3.0 per week) in a study designed to determine the optimal treatment frequency for vitiligo and identify key clinical variable(s) associated with treatment efficacy at the optimal frequency. The repigmentation rate was graded on a six-point scale and was blindly evaluated by independent physicians. The final percentage of repigmentation for group 0.5 was statistically lower
than those for group 1.0, 2.0, and 3.0, and percentages of final levels of repigmentation among these three groups were not statistically different. The onset of repigmentation correlated with the area of vitiliginous patches treated, not with the other clinical variables.

Finally, the shorter the course of disease, the more promising the treatment of vitiligo using a 308 nm excimer laser. Zhang (2010) studied 36 patients with 44 vitiligo patches who were treated using a 308 nm excimer laser twice a week. After 30 treatments: 27/44 patches (61.4 percent) achieved more than 75 percent repigmentation, 4/44 lesions (9.1 percent) showed 51 percent – 75 percent repigmentation, 10/44 (22.7 percent) showed 26 percent – 50 percent repigmentation and 3/44 (6.8 percent) showed 1 percent – 25 percent repigmentation. Of the 44 patches of vitiligo, 20/27 (74.1 percent) lesions on the face and neck, 9/9 (100 percent) on the trunk and 2/8 (25.0 percent) on the extremities showed ≥ 50 percent repigmentation. The repigmentation (≥ 50 percent) in face and neck and trunk were much higher than that in the extremities (P < 0.05). The repigmentation (≥ 50 percent) in disease duration of ≤ two years and > two years were 100.0 percent and 46.2 percent (P < 0.05). The average cumulative doses in the face, neck, trunk, and extremities were 7.92+/−5.26, 9.93+/−7.36, and 22.13+/−8.15 J/cm². The doses in the face, neck, and trunk were much lower than those in the extremities (P < 0.05). Side effects were limited mainly to symptomatic erythema.

Summary of clinical evidence:

<table>
<thead>
<tr>
<th>Citation</th>
<th>Content, Methods, Recommendations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mehraban (2014)</td>
<td>Key points:</td>
</tr>
<tr>
<td>The 308-nm excimer laser in dermatology</td>
<td>Systematic review on 308-nm excimer laser in dermatological disorders.</td>
</tr>
<tr>
<td></td>
<td>Showed efficacy in treating vitiligo, psoriasis, atopic dermatitis, alopecia areata, allergic rhinitis, folliculitis, granuloma annulare, lichen planus, mycosis fungoides, palmoplantar pustulosis, pityriasis alba, CD30+ lympho proliferative disorder, leukoderma, prurigo nodularis, localized scleroderma, and genital lichen sclerosus.</td>
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<td>Zhang (2010)</td>
<td>Key points:</td>
</tr>
<tr>
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<td>Randomized controlled trial (RCT) of 36 patients with 44 vitiligo patches who were treated using a 308 nm excimer laser twice a week.</td>
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<td></td>
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</table>
The doses in the face, neck, and trunk were much lower than those in the extremities ($P < 0.05$).

Side effects were limited mainly to symptomatic erythema.

**Wang (2009)**

Efficacy and safety of 308-nm excimer laser for vitiligo

**Key points:**

- Efficacies and safety of 308-nm excimer laser for vitiligo.
- Patients were followed up for two months.
- The rates of "remarkably improved" and "cured" were 67.97% and 32.03% in faces, 54.55% and 27.27% in necks, 63.26% and 26.53% in trunks, 38.84% and 15.70% in limbs, and 0% and 0% in hands and feet.
- The areas of faces had a better response than those of necks, trunks, or limbs ($P < 0.01$), and the areas of trunks or limbs had better response than those of hands and feet ($P < 0.01$).
- The authors concluded that the 308-nm excimer laser is safe and effective in treating stable vitiligo and the efficacy varies in different lesion sites.

**Shen (2007)**

Optimal frequency of treatment with the 308-nm excimer laser for vitiligo on the face and neck

**Key points:**

- RCT treated a total of 187 patients with the 308-nm excimer laser for 20 sessions at different frequencies (0.5, 1.0, 2.0, and 3.0 per week).
- Repigmentation rate was graded on a six-point scale and was blindly evaluated by independent physicians.
- The final percentage of repigmentation for group 0.5 was statistically lower than those for group 1.0, 2.0, and 3.0, and percentages of final levels of repigmentation among these three groups were not statistically different.
- The onset of repigmentation correlated with the area of vitiliginous patches treated, not with the other clinical variables.

**References**

**Professional society guidelines/other:**


**Peer-reviewed references:**


Gordon PM, Aldrige RD, McVittie E et al. Topical diphencyprone for vitiligo and psoriasis: evaluation of


**CMS National Coverage Determinations (NCDs):**

No NCDs identified as of the writing of this policy.

**Local Coverage Determinations (LCDs):**

No LCDs identified as of the writing of this policy.

**Commonly submitted codes**

Below are the most commonly submitted codes for the service(s)/item(s) subject to this policy. This is not an exhaustive list of codes. Providers are expected to consult the appropriate coding manuals and bill accordingly.

<table>
<thead>
<tr>
<th>CPT Code</th>
<th>Description</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>96910</td>
<td>Photochemotherapy; tar and ultraviolet B (Goeckerman treatment) or petrolatum and ultraviolet B</td>
<td></td>
</tr>
<tr>
<td>96912</td>
<td>Photochemotherapy; psoralens and ultraviolet A (PUVA)</td>
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</tr>
<tr>
<td>96920</td>
<td>Laser treatment for inflammatory skin disease (psoriasis); total area less than 250 sq cm</td>
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</tr>
<tr>
<td>96921</td>
<td>Laser treatment for inflammatory skin disease (psoriasis); 250 sq cm to 500 sq cm</td>
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</tr>
<tr>
<td>96922</td>
<td>Laser treatment for inflammatory skin disease (psoriasis); over 500 sq cm</td>
<td></td>
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</table>

<table>
<thead>
<tr>
<th>ICD-10 Code</th>
<th>Description</th>
<th>Comments</th>
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<tbody>
<tr>
<td>L80.0</td>
<td>Vitiligo</td>
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<table>
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<tr>
<th>HCPCS Level II Code</th>
<th>Description</th>
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<tr>
<td>J0702</td>
<td>Injection, betamethasone acetate 3 mg and betamethasone sodium phosphate 3 mg</td>
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<tr>
<td>HCPCS Level II Code</td>
<td>Description</td>
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<td>---------------------</td>
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<tr>
<td>J1020</td>
<td>Injection, methylprednisolone acetate, 20 mg</td>
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<td>J1030</td>
<td>Injection, methylprednisolone acetate, 40 mg</td>
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<td>J1040</td>
<td>Injection, methylprednisolone acetate, 80 mg</td>
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<tr>
<td>J1094</td>
<td>Injection, dexamethasone acetate, 1 mg</td>
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<tr>
<td>J1100</td>
<td>Injection, dexamethasone sodium phosphate, 1 mg</td>
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<tr>
<td>J1700</td>
<td>Injection, hydrocortisone acetate, up to 25 mg</td>
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<tr>
<td>J1710</td>
<td>Injection, hydrocortisone sodium phosphate, up to 50 mg</td>
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<tr>
<td>J1720</td>
<td>Injection, hydrocortisone sodium succinate, up to 100 mg</td>
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<tr>
<td>J2650</td>
<td>Injection, prednisolone acetate, up to 1 ml</td>
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<tr>
<td>J2920</td>
<td>Injection, methylprednisolone sodium succinate, up to 40 mg</td>
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<td>J2930</td>
<td>Injection, methylprednisolone sodium succinate, up to 125 mg</td>
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<td>J3301</td>
<td>Injection, triamcinolone acetonide, NOS, 18 mg</td>
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<td>J3302</td>
<td>Injection, triamcinolone diacetate, per 5 mg</td>
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<td>J3303</td>
<td>Injection, triamcinolone hexacetinodie, per 5 mg</td>
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<tr>
<td>J7509</td>
<td>Methylprednisolone, oral per 4 mg</td>
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<td>J7510</td>
<td>Prednisolone, oral, per 5 mg</td>
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<td>J7512</td>
<td>Prednisone, immediate release or delayed release, oral, 1 mg</td>
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<tr>
<td>J8540</td>
<td>Dexamethasone, oral 0.25 mg</td>
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