Description/Summary

A chemical peel refers to a controlled removal of varying layers of the skin with use of a chemical agent. The most common use for chemical peeling is as a treatment of photoaged skin. However, chemical peeling has also been used as a treatment for other conditions, including actinic keratoses, active acne, and acne scarring.

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

Dermal chemical peels used to treat patients with numerous (>10) actinic keratoses or other premalignant skin lesions, such that treatment of the individual lesions becomes impractical, may be considered medically necessary.

Epidermal chemical peels used to treat patients with active acne that has failed a trial of topical and/or oral antibiotic acne therapy may be considered medically necessary. In this setting, superficial chemical peels with 40% to 70% alpha hydroxy acids are used as a comedolytic therapy. (Alpha hydroxy acids can also be used in lower concentrations [8%] without the supervision of a physician.)

When a service is considered cosmetic and therefore non-covered as a benefit exclusion

Epidermal chemical peels used to treat photoaged skin, wrinkles, or acne scarring or dermal peels used to treat end-state acne scarring. Epidermal chemical peels used only to enhance a patient’s appearance. (See cosmetic policy)
Policy Guidelines

Requests for all chemical peels should be carefully evaluated to determine whether their rationale is primarily cosmetic. Epidermal peels would only be considered medically necessary in patients with active acne who have failed other therapy. Dermal peels would be considered medically necessary only in patients with multiple actinic keratoses.

Background

A chemical peel is a procedure in which a topically applied wounding agent creates smooth, rejuvenated skin by way of a wound repair process, collagen remodeling, and exfoliation. Usually, this procedure is performed on the face.

A medium-depth chemical peel with 35 to 50% trichloroacetic acid (TCA) alone or at 35% in combination with Jessner’s solution, 70% glycolic acid, or solid CO$_2$ may effectively treat multiple non-hypertrophic AKs [13]. In a nonrandomized split-face study, Jessner’s solution plus 35% TCA demonstrated similar efficacy and decreased rates of morbidity when compared with 5-FU [14].

Medium-depth peels cause injury at the level of the papillary dermis and should be applied by a clinician in a controlled setting. Prior to treatment, patients should be educated about possible complications of stinging or burning sensation, visible peeling (which usually lasts five to seven days), pigmentary changes, infections, and rarely scarring.

Patients with a history of herpes simplex virus (HSV) infection, previous radiation exposure, immunosuppression, post inflammatory hyperpigmentation, keloids, recent facial surgery, or taking photosensitizing medications may experience higher rates of complications from chemical peels. Patients likely to be noncompliant with post-treatment sunscreen use or who are unable to avoid sun exposure because of occupation are unsuitable candidates for a chemical peel.

Rationale/Scientific Background

The policy was developed with an initial literature search of the MEDLINE database through January 1998. The policy has been updated regularly with searches of the MEDLINE database. Most recently, the literature was reviewed through May 28, 2015. The key literature is described below.

A major issue for the policy is the determination of whether the treatment is primarily cosmetic in nature.

Actinic keratoses (AKs or solar keratoses) are keratotic macules, papules, or plaques resulting from the intraepidermal proliferation of atypical keratinocytes in response to prolonged exposure to ultraviolet radiation. Although most AKs do not progress to squamous cell carcinoma (SCC), AKs are a concern because the majority of cutaneous SCCs arise from pre-existing AKs, and AKs that will progress to SCC cannot be distinguished from AKs that will spontaneously resolve or persist. Because of these factors, most clinicians routinely treat AKs. Improvement in associated symptoms and cosmetic appearance can be additional
benefits of treatment.

Treatment options for actinic keratosis (AK) include destructive therapies (e.g., surgery, cryotherapy, dermabrasion), topical medications (e.g., 5-fluorouracil [5-FU], imiquimod, ingenol mebutate, diclofenac), chemical peels (e.g., trichloroacetic acid), and photodynamic therapy (PDT). In general, lesion-directed treatments, such as cryotherapy and surgical procedures, are the primary approach for isolated lesions. Field-directed therapies, such as topical 5-FU, imiquimod, ingenol mebutate, and diclofenac, are particularly useful for treating areas with multiple AKs. Evidence for efficacy of these therapies is derived from multiple randomized trials and systematic reviews.

Review articles have also suggested that chemical peels may be appropriate for treatment of active acne when other treatments have failed. While low concentrations of chemical agents can be administered by the patient at home, higher concentrations are administered in the dermatologist’s office. Superficial glycolic acid peels are usually done as an adjunct to other comedolytic therapy done in the office. Because chemical peeling does not represent a curative therapy, treatments may be continued over the course of years. Superficial peels for these patients represent a more intense form of therapy, inasmuch as referral to a dermatologist is required. Therefore patients with acne requesting coverage for chemical peels should have failed a trial of topical and oral antibiotic therapy for acne. Other applications of chemical peels, including treatment of photoaged skin, wrinkles, and acne scarring are considered cosmetic.

Active Acne
Several randomized trials that used a split-face design have been published. Only 1 RCT was identified that included a placebo group; the others compared 2 chemical peel protocols to one another. The placebo-controlled trial was published in 2014 by Kaminaka et al in Japan. It was double-blind and included 26 patients with moderate to severe facial acne. Patients with moderate acne had 6 to 20 inflammatory lesions and up to 20 non-inflammatory lesions, and patients with severe acne had 21 to 50 inflammatory lesions. Failure of previous treatments was not an explicit inclusion criterion. Patients were required to undergo a washout period of 2 months before study participation where they could not use topical or oral antibiotics, retinoids, or corticosteroids. Participants then received a chemical peel treatment on a randomly selected side of the face and a placebo peel on the other side. Both treatments used the same pH acid gel vehicle (pH, 2.0) and the active treatment was a 40% glycolic acid peel. Treatments were given every 2 weeks for a total of 5 applications, and the follow-up visit occurred 2 weeks after the last session (i.e., at 10-week follow-up). The overall therapeutic effect was judged by a blinded dermatologist as excellent or good for 23 (92%) of the chemical peel sides and 10 (40%) of the placebo sides; the difference between groups was statistically significant (p<0.01). Moreover, there were statistically significant reductions in inflammatory lesions and total lesion counts at each 2-week assessment and at the final 10-week assessment. No serious side effects or systematic adverse effects were reported.

Among the trials comparing 2 chemical peel interventions, Levesque et al in France published findings in 2011 from a single-blind trial that included 20 patients with active comedonal acne. To be eligible, patients needed to have at least 5 non-inflammatory acne lesions on each side of the face and to have fewer than 30 inflammatory acne lesions on the entire face. Participants were required to stop using other acne medications before starting the chemical peel treatment. The treatments being compared were a salicylic acid peel and
a lipophilic hydroxyl acid (LHA) derivative of salicylic acid; patients received 1 treatment to 1 side of their face (selected randomly) and the other treatment to the second side. Treatments occurred every other week for a total of 6 peels. At the end of the treatment period, the reduction in the proportion of non-inflammatory lesions was 55.6% on the LHA side and 48.5% on the salicylic acid side; the difference between groups was not statistically significant (p=0.88). The number of lesions decreased significantly between baseline and the end of treatment in both groups (p<0.001). Both treatments were well- tolerated (as assessed by a global tolerance scale); there was no significant difference between treatments in erythema (p=0.10).

Another single-blind RCT in acne patients was published in 2010 by Ilknur et al in Turkey. Treatments being compared in this study were glycolic acid peels and amino fruit peels. The study included 30 patients with non-inflamed lesions and superficial inflamed lesions, with acne grades 0.25 to 2 according to Leeds criteria. Patients received a series of 12 peels on the 2 halves of their face at 2-week intervals (total, 6 months). Twenty-four of 30 (80%) patients completed the study. The mean (SD) number of non-inflamed lesions on the glycolic acid side decreased from 49.1 (40.6) at baseline to 18.3 (12.9) at 6 months. The mean (SD) number of non-inflamed lesions on the amino fruit acid side decreased from 45.6 (43.5) at baseline to 17.1 (14.2) at 6 months. The reduction in lesions did not differ significantly between groups. Findings were similar for the other primary outcome, number of superficial inflamed lesions. At 6 months, the number (SD) of inflamed lesions was 6.9 (5.2) on the glycolic acid side and 7.0 (7.3) on the amino fruit acid side (p>0.05).

In 2008, Kessler et al published a double-blind split-face study evaluating chemical peels as adjuvant therapy in 20 patients who were at least aged 13 years and had mild to moderately severe facial acne with a minimum of 10 papules and/or pustules. The study compared treatment with an alpha hydroxyl acid (30% glycolic acid) and a beta hydroxyl acid peel (30% salicylic acid). Patients were treated every 2 weeks for a total of 6 weeks and were followed for 2 months after the last treatment. At the time of study enrollment, 75% of patients were using topical medication, and 25% were on oral antibiotics; no changes in acne medication were allowed during the study period. The primary outcome was clinical response according to a blinded evaluator, categorized as good (>50% improvement), fair (21%-50% improvement), poor (10%-20% improvement), no change, or worse. A total of 17 of the 20 patients were included in the analysis; 1 patient dropped out and 2 were lost to follow-up. At 1 month after the last treatment visit, acne lesions declined by 43% on the glycolic acid peel side and 47% on the salicylic acid peel side, a nonsignificant between-group difference. There was also no between-group difference in response at 2 months; the evaluator rated as having good or fair improvement 75% of the glycolic acid peel side and 80% of the salicylic acid peel side. Both chemical agents resulted in improvement compared with baseline. There were a similar number of adverse events with each of the chemical agents; common adverse events were redness and scaling.

None of the RCTs comparing 2 chemical peel protocols also included a control group of patients who received a different type of treatment; therefore, it is uncertain whether either type of peel was more effective than an alternative treatment.

**Actinic Keratoses**

No controlled studies that evaluated chemical peels for treatment of actinic keratoses were identified. The search yielded 1 case series, a prospective study from Japan that included 46
patients, 32 with actinic keratoses and 14 with Bowen disease. There was no minimum number of actinic keratoses required for inclusion; that is, the study did not specifically address treatment of multiple actinic keratoses. Patients received phenol peels with 100% pure phenol applied locally to the lesions once a month for a maximum of 8 months (less if a complete response was achieved) Biopsies were performed on all lesions before and at the end of therapy. Twenty-nine of the 32 (91%) patients with actinic keratoses achieved a complete response (defined as an undetectable lesion at least 1 month after the last phenol application). The average number of treatments for patients with actinic keratoses was 2.9. Ten of the 12 (83%) patients with Bowen disease had a complete response, and the average number of treatments in this group was 5.5. All patients were followed for at least 1 year after treatment; median follow-up was 2.8 years. By the 1-year follow-up, 2 of 46 patients (4.3%), 1 with actinic keratoses and 1 with Bowen disease, had experienced recurrences. No systemic adverse effects were reported. The study was limited by lack of a control group and a small sample size, especially in the subset of patients with Bowen disease.

Ongoing and Unpublished Clinical Trials
A search of ClinicalTrials.gov in August 2017 did not identify any ongoing or unpublished trials that would likely influence this policy.

Summary of Evidence
Limited evidence supports the use of chemical peels for treating multiple actinic keratoses and as second-line treatment of active acne. In 2014, the first placebo-controlled randomized trial evaluating chemical peels for active acne was published and this trial found significantly better outcomes after treatment with a 40% glycolic acid peel compared with placebo treatment. There are no studies that demonstrate improved outcomes using chemical peels in the treatment of photoaged skin or acne-related scarring.

SUPPLEMENTAL INFORMATION

Clinical Input Received from Physician Specialty Societies and Academic Medical Centers
While the various physician specialty societies and academic medical centers may collaborate with and make recommendations during this process, through the provision of appropriate reviewers, input received does not represent an endorsement or position statement by the physician specialty societies or academic medical centers, unless otherwise noted.

In response to requests, input was received through 3 physician specialty societies and 4 academic medical centers while this policy was under review in 2010. The clinical input was consistently in agreement with the medically necessary indications for dermal and epidermal chemical peels. Several reviewers supported use of chemical peels for post acne scarring.

Practice Guidelines and Position Statements

British Association of Dermatologists
In 2007, the British Association of Dermatologists published a guideline on the management of actinic keratoses. Chemical peels were given a “C, III” rating, meaning that there is “poor evidence to support the use of the procedure” and the evidence consists of “opinions of respected authorities based on clinical experience, descriptive studies, or reports of expert
committees.”

**American Academy of Dermatology**

In 2007, the American Academy of Dermatology published a guideline on management of acne vulgaris which included the statement: “There is limited evidence regarding the benefit of physical modalities including glycolic acid peels and salicylic acid peels.”

**Literature Review**

Uptodate August 2017

**Reference Resources**

Related Policies

Cosmetic and Reconstructive Procedures

Document Precedent

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, or employer’s benefit plan if an ASO group, 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/employer benefit plan language, the member’s contract/employer benefit plan 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 and benefits are subject to all terms, limitations and conditions of the subscriber contract.

Incomplete authorization requests may result in a delay of decision pending submission of missing information. To be considered complete, see policy guidelines above.

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) only 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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<td>Policy updated with literature review, references updated. Policy statement unchanged. ICD 10-CM L70.1 Descriptor updated</td>
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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

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