Dermabrasion and chemical peel

Clinical Policy ID: CCP.1323

Recent review date: 8/2026

Next review date: 12/2027

Policy contains: Acne vulgaris, actinic keratosis; chemical peels; dermabrasion; skin cancer.

First Choice Next has developed clinical policies to assist with making coverage determinations. First Choice Next'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, on a case by case basis, by First Choice Next 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. First Choice Next'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. First Choice Next's clinical policies are reflective of evidence-based medicine at the time of review. As medical science evolves, First Choice Next will update its clinical policies as necessary. First Choice Next's clinical policies are not guarantees of payment.

Coverage policy

Ablative skin resurfacing, including laser resurfacing or dermabrasion, is clinically proven and, therefore, may be medically necessary as field treatment for extensive or diffuse pre-cancerous actinic keratoses, when conventional methods (e.g., 5-fluorouracil, imiquimod, or cryotherapy) are not effective due to the large number of lesions, being contraindicated, or refusal by the patient (National Comprehensive Cancer Network, 2026).

Trichloroacetic acid chemical peels are clinically proven and, therefore, may be medically necessary as field treatment for extensive or diffuse pre-cancerous actinic keratoses, when conventional methods (e.g., 5-fluorouracil, imiquimod, or cryotherapy) are not effective due to the large number of lesions, being contraindicated, or refusal by the patient (Eisen, 2021; National Comprehensive Cancer Network, 2026).

For medical necessity determinations of medications, refer to the applicable state approved pharmacy policy.

Limitations

Other uses of dermabrasion and chemical peels, including those performed for cosmetic purposes, are considered investigational/not clinically proven and, therefore, not medically necessary.

Contraindications to dermabrasion and chemical peels include: active bacterial, viral, or fungal infections; active stages of acne; tendency to keloid formation; facial dermatitis; current use of photosensitizing medications; previous radiation treatments; and unrealistic expectations (American Society of Plastic Surgeons, 2023).

Alternative covered services

- Topical fluorouracil, alone or with calcipotriene; imiquimod; or tirbanibulin.
- Cryotherapy.

- Photodynamic therapy.
- Combination of above therapies (Eisen, 2021; National Comprehensive Cancer Network, 2026).

Background

Dermabrasion employs a hand-held, rapidly rotating wire brush or diamond fraise (steel wheel) that planes or sands the skin on the face, removing the epidermis and superficial dermis. Traditional dermabrasion has been used less often in recent years, due to the availability of less invasive procedures (American Society of Plastic Surgeons, 2023).

Microdermabrasion is a less invasive, non-surgical procedure that exfoliates or removes the top layer of skin (stratum corneum), after aluminum oxide crystals or other abrasive substances are blown onto the face using a hand-held device. Ablative laser resurfacing is distinct from microdermabrasion and removes the epidermis and controlled portions of the dermis using laser energy (American Society of Plastic Surgeons, 2023).

Chemical peels involve applying a solution to the skin that causes exfoliation and eventual peeling, leaving the skin smoother and less wrinkled than before the procedure. Peels are divided into three levels (American Society for Dermatologic Surgery, 2023):

1. Superficial peels, which gently exfoliates the outer layer of skin, and take one to seven days to heal.
2. Medium peels, which involve application of glycolic or trichloroacetic acid to remove damaged skin cells in the outer and middle layers of skin, and take seven to 14 days to heal.
3. Deep peels, which involve application of trichloroacetic acid or phenol to deeply penetrate the middle layer of skin, and remove damaged skin cells, and take 14 to 21 days to heal.

Many procedures in these categories are performed for cosmetic purposes. Others are performed to address functional impairments of the skin. Common uses of dermabrasion may include the treatment of acne and injury-induced scarring, sun damaged and wrinkled skin, rhinophyma, and precancerous skin lesions. Chemical peels may be used in combination or alone depending on individual need (American Society for Dermatologic Surgery, 2023; American Society of Plastic Surgeons, 2023).

Findings

Guidelines

Treatment Recommendations for Actinic Keratosis

The American Academy of Dermatology Association strongly recommends topical agents and cryosurgery as primary treatments for actinic keratoses. The organization conditionally recommends photodynamic therapy over trichloroacetic acid peel and certain combination therapies, though they issued no specific recommendation statement for dermabrasion skin resurfacing options (Eisen, 2021). The National Comprehensive Cancer Network states that chemical peels using trichloroacetic acid and ablative skin resurfacing techniques, including dermabrasion and laser treatments, may be considered for treating actinic keratosis due to their ability to reduce lesion numbers (National Comprehensive Cancer Network, 2026a; 2026b). However, the organization acknowledges that high-quality data supporting the efficacy and safety of these treatments remains limited. The National Comprehensive Cancer Network places these modalities in the context of field cancerization or confluent epidermal dysplasia; they should not be interpreted as treatment for discrete invasive squamous cell carcinoma.

Review of International Treatment Recommendations

Based on the comprehensive review of actinic keratosis treatments, laser therapy including ablative methods such as carbon dioxide and erbium lasers is supported by multiple international guidelines as an effective treatment option with efficacy rates ranging from 72.4% to 91.91%, though the European guidelines note it is not superior to cryotherapy or 5-fluorouracil treatment with strength of recommendation B and level of evidence 2. Chemical peels using trichloroacetic acid, alpha-hydroxy acids, and glycolic acid are specifically recommended by the German Dermatological Society for single or multiple actinic keratoses and field cancerization with strength of recommendation C and level of evidence 3, with studies demonstrating greater efficacy when combined with 5-fluorouracil compared to 5-fluorouracil alone. Both modalities are particularly valuable when conventional first-line treatments including cryotherapy, topical 5-fluorouracil, or imiquimod are contraindicated, ineffective due to extensive disease burden, or refused by patients, supporting their medical necessity as alternative therapeutic options for pre-cancerous actinic keratosis management (Ceryn, 2025).

International Perspectives on Actinic Keratosis Management

European expert guidelines on actinic keratosis notably did not address dermabrasion or chemical peels as treatment options (Werner, 2015). French guidelines took a different approach by including surgical treatment as one acceptable option for managing actinic keratosis (Dréno, 2014). Canadian guidelines concluded that actinic keratosis should be treated using surgical, topical, or photodynamic therapies, with combined therapies recommended when initial treatment proves unsuccessful (Poulin, 2015). This variation in international guidelines reflects ongoing controversy regarding the best treatment standard for actinic keratosis.

Standards for Carcinoma Treatment

For basal cell carcinoma and cutaneous squamous cell carcinoma, clinical guidelines consistently recommend surgical excision as the primary treatment modality. Topical therapies may be considered for patients with low-risk disease when surgery is impractical or declined by the patient, though cure rates for these alternative options may be lower. NCCN separately recognizes trichloroacetic acid peels and ablative resurfacing for field cancerization or confluent epidermal dysplasia; these field-directed modalities should not be interpreted as treatment for discrete invasive carcinoma (Kim, 2018a; Kim, 2018b; National Comprehensive Cancer Network, 2026a; 2026b).

Acne Vulgaris Management Challenges

The American Academy of Dermatology produced guidelines for managing acne vulgaris based on a work group of seventeen experts who reviewed two hundred forty-two articles. The experts noted that while studies of chemical peels exist, large multicenter double-blinded controlled trials are lacking, highlighting a significant gap in the evidence base for this common condition (Zaenglein, 2016).

Systematic Reviews

Chemical Peel Efficacy for Actinic Keratosis

A systematic review examining chemical peels for actinic keratosis found that four of the five included studies confirmed the efficacy of chemical peels in reducing lesion count with minimal adverse effects. However, the ability of chemical peels to prevent additional lesion formation and development of keratinocyte carcinomas remains less clear, indicating a need for longer-term follow-up studies to assess preventive benefits (Jiang, 2021).

Trichloroacetic Acid Treatment Outcomes

A systematic review identified three randomized controlled trials evaluating trichloroacetic acid treatment for actinic keratosis. The concentrations ranged between thirty and fifty percent and were applied as single treatments to individual lesions. The mean percent clearance post-treatment was 65.6% at one to three months, 68.0% at three to six months, and 27% at twelve months. Only the three to six month timepoint showed statistical

significance compared to placebo. While the results suggest trichloroacetic acid elicits a delayed, short-lived treatment response, the recurrence rate after twelve months was remarkably low at 5.4%, representing one of the lowest recurrence rates among all treatment options. The review found no correlation between trichloroacetic acid concentration and the degree of clinical response (Worley, 2023).

Field Resurfacing for Actinic Keratosis

A systematic review of 53 studies, including 45 laser studies and nine chemical-peel studies, found that ablative laser approaches, particularly when combined with photodynamic therapy, generally produced greater actinic keratosis clearance than nonablative approaches. Chemical peels were generally better tolerated but less effective than the strongest laser approaches. Evidence was insufficient to determine whether resurfacing prevents recurrence or keratinocyte carcinoma, and longer-term comparative studies are needed (Zhou, 2025).

Prevention of Squamous Cell Carcinoma

A systematic review of 13 randomized trials involving 5,004 participants found that fluorouracil, particularly fluorouracil combined with calcipotriene, provided the most consistent evidence of reduced subsequent squamous cell carcinoma incidence. Evidence for photodynamic therapy and imiquimod was mixed, and long-term evidence for tirbanibulin remained limited. The review did not evaluate dermabrasion, laser resurfacing, or chemical peels and therefore provides no direct support for expanding coverage of the procedures addressed in this policy (Riddle, 2026).

Actinic Cheilitis Treatment Comparison

A systematic review of 18 mostly low-quality case series involving 411 patients examined treatments for actinic cheilitis, a precancerous skin condition affecting the lips. Carbon dioxide laser ablation and vermilionectomy were associated with the most favorable outcomes with fewest recurrences, while chemical peel and photodynamic therapy were associated with higher recurrence rates. For all treatments, adverse effects generally resolved quickly with favorable cosmesis. The review emphasized that high-quality comparative studies are needed to determine the relative efficacy of treatment options and patient preferences (Trager, 2021).

A newer systematic review of eight randomized trials involving 230 participants found favorable short-term clearance with carbon dioxide laser, methyl aminolevulinate daylight photodynamic therapy, and electrodessication. Carbon dioxide laser retained the most favorable results at six months. Five trials had a high risk of bias, outcomes were heterogeneous, and malignant transformation was not adequately evaluated. No eligible randomized trial evaluated chemical peels or conventional dermabrasion (Fernández Herranz, 2026).

Cochrane Review of Actinic Keratosis Treatments

A Cochrane review of treatments concluded that carbon dioxide laser and erbium-doped yttrium aluminum garnet laser resurfacing, 5-fluorouracil, and trichloroacetic acid peel were similarly efficacious for reducing the number of actinic keratoses, based on three randomized controlled trials involving 87 participants. The ability of carbon dioxide laser resurfacing to prevent short-term recurrence of actinic keratoses within twelve months remains unclear. Notably, no studies of conventional dermabrasion met the review's inclusion criteria (Gupta, 2012).

Early Literature on Dermabrasion and Chemical Peels

Early literature reviews of dermabrasion and chemical peel skin resurfacing for acne vulgaris generally showed favorable efficacy with low risk of complications. However, the evidence comprised uncontrolled studies enrolling small numbers of patients, limiting the strength of conclusions that can be drawn from these early investigations (Dréno, 2011; Kim, 2011).

Procedural Therapies for Active Acne

A systematic review of 160 studies involving 8,121 participants evaluated procedural treatments for active acne, including 20 chemical-peel studies with 694 participants. Salicylic- and glycolic-acid peels demonstrated favorable short-term outcomes, while trichloroacetic acid and Jessner solution were generally less effective and carried greater postinflammatory hyperpigmentation risk. Substantial heterogeneity in treatments, outcomes, skin types, and follow-up prevented quantitative pooling. Procedural treatments remain adjuncts to established topical and systemic therapy (Pour Mohammad, 2025).

Meta-Analysis

Network Meta-Analysis of Acne Vulgaris Treatments

A network meta-analysis examined 179 randomized controlled trials with approximately 35,000 observations across 49 treatment classes for acne vulgaris. Low-quality evidence suggests that chemical peels, including salicylic or mandelic acid treatments, are one of the most effective treatment options for mild-to-moderate acne, with a mean difference of 39.70% and a 95% credible interval ranging from 12.54% to 66.78% based on 128 observations. However, the uncertainty in the findings was high, and the authors emphasized that further research is warranted to confirm these promising results (Mavranezouli, 2022).

Network Meta-Analysis of Atrophic Acne Scar Treatments

A Bayesian network meta-analysis included 56 randomized trials involving 1,488 patients with moderate-to-severe atrophic acne scars. Combination procedures generally produced better outcomes than monotherapy, although most trials were small and used split-face or self-controlled designs. Chemical-peel combinations appeared beneficial for selected superficial scars, but conventional dermabrasion was not a major evaluated intervention. Evidence certainty varied from low to moderate (Ou, 2026).

Other Evidence Types

Evolution of Chemical Peel Science

The science behind chemical peeling has expanded significantly over the last thirty years, broadening the potential role of different skin resurfacing procedures and treatment indications. Currently, the relative treatment efficacy of dermabrasion and chemical peels is hampered by the lack of controlled trials and professional guidelines that specifically address these treatments and their clinical purpose (Lee, 2019).

Risk Factors for Squamous Cell Carcinoma Development

Prospective longitudinal studies have identified pre-existing actinic keratosis and large actinic keratoses exceeding one square centimeter in diameter as features associated with the development of squamous cell carcinoma. These findings underscore the importance of treating actinic keratosis to prevent progression to malignancy (Balcere, 2022).

In 2026, we added systematic reviews (Fernández Herranz, 2026; Pour Mohammad, 2025; Riddle, 2026; Zhou, 2025) and a network meta-analysis (Ou, 2026). We also updated both National Comprehensive Cancer Network guideline publication dates. No policy changes were warranted.

References

On July 16, 2026, we searched PubMed and the databases of the Cochrane Library, the U.K. National Health Services Centre for Reviews and Dissemination, the Agency for Healthcare Research and Quality, and the Centers for Medicare & Medicaid Services. Search terms were “dermabrasion (MeSH),” “chemexfoliation (MeSH)”, “neoplasm (MeSH),” “chemical peel,” “acne vulgaris,” “actinic keratosis,” “lesions,” and “carcinoma.” We included the best available evidence according to established evidence hierarchies (typically systematic

reviews, meta-analyses, and full economic analyses, where available) and professional guidelines based on such evidence and clinical expertise.

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Policy updates

7/2017: initial review date and clinical policy effective date: 8/2017

8/2018: Policy references updated.

8/2019: Policy references updated. Policy ID changed from 16.02.09 to CCP.1323.

8/2020: Policy references updated. Contraindications added to limitations section.

8/2021: Policy references updated.

8/2022: Policy references updated. Coverage modified.

8/2023: Policy references updated.

8/2024: Policy references updated.

8/2025: Policy references updated.

8/2026: Policy references updated.

Related codes

Below are the most commonly submitted codes for the service(s)/item(s) subject to this policy CCP.1323 .This is not an exhaustive list of codes. Providers are expected to consult the appropriate coding manuals and bill accordingly.

Code	Code description
15780	Dermabrasion, total face
15781	Dermabrasion, segmental face
15782	Dermabrasion, regional, other than face
15783	Dermabrasion, superficial, any site
15786	Abrasion, single lesion (e.g., keratosis or scar)
15787	Abrasion, each additional four lesions or fewer; add-on code
15788	Chemical peel, facial; epidermal
15789	Chemical peel, facial; dermal
15792	Chemical peel, nonfacial; epidermal
15793	Chemical peel, nonfacial; dermal
17360	Chemical exfoliation for acne