



CIGNA PHARMACY COVERAGE POLICY

This Coverage Policy should NOT be used for Great-West benefit plans.

Subject **Ciclopirox (Penlac[®] Nail Lacquer)**

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Hyperlink to Related Coverage Positions

Oral Onychomycosis Antifungal Therapy:
 [Terbinafine (Lamisil[®]), Itraconazole (Sporanox[®])]

INSTRUCTIONS FOR USE

Coverage Policies are intended to provide guidance in interpreting certain **standard** CIGNA HealthCare benefit plans as well as benefit plans formerly administered by Great-West Healthcare. Please note, the terms of a participant's particular benefit plan document [Group Service Agreement (GSA), Evidence of Coverage, Certificate of Coverage, Summary Plan Description (SPD) or similar plan document] may differ significantly from the standard benefit plans upon which these Coverage Policies are based. For example, a participant's benefit plan document may contain a specific exclusion related to a topic addressed in a Coverage Policy. In the event of a conflict, a participant's benefit plan document **always supercedes** the information in the Coverage Policies. In the absence of a controlling federal or state coverage mandate, benefits are ultimately determined by the terms of the applicable benefit plan document. Coverage determinations in each specific instance require consideration of 1) the terms of the applicable group benefit plan document in effect on the date of service; 2) any applicable laws/regulations; 3) any relevant collateral source materials including Coverage Policies and; 4) the specific facts of the particular situation. Coverage Policies relate exclusively to the administration of health benefit plans. Coverage Policies are not recommendations for treatment and should never be used as treatment guidelines. Proprietary information of CIGNA. Copyright ©2009 CIGNA

Coverage Policy

CIGNA covers topical ciclopirox (Penlac[®] Nail Lacquer) for the treatment of onychomycosis in an individual who is diabetic or immunocompromised when BOTH of the following criteria are met:

- the individual has not been treated with oral antifungal agent [e.g., terbinafine (Lamisil[®])] within the past 32 weeks
- history of failure, contraindication or intolerance to oral terbinafine (Lamisil) tablets (**for closed formulary members only**)

For an individual who is not diabetic or immunocompromised, CIGNA covers topical ciclopirox (Penlac[®] Nail Lacquer) for the treatment of onychomycosis when ALL of the following criteria are met:

- diagnosis has been confirmed by either a positive potassium hydroxide (KOH) stain, para-aminosalicylic acid (PAS) stain, positive dermatophyte testing medium (DTM) or positive fungal culture
- the individual has not been treated with oral antifungal agent [e.g., terbinafine (Lamisil[®])] within the past 32 weeks
- Either of the following
 - pain that limits normal activity
 - significant peripheral vascular compromise
- failure, contraindication or intolerance to oral Lamisil tablets (**for closed formulary members only**)

CIGNA does not cover topical ciclopirox (Penlac Nail Lacquer) for a length of treatment greater than 48 weeks because it is considered experimental, investigational or unproven.

FDA Approved Indications

Penlac Nail Lacquer (ciclopirox) Topical Solution, 8%, as a component of a comprehensive management program, is indicated as topical treatment in immunocompetent patients with mild to moderate onychomycosis of fingernails and toenails without lunula involvement, due to *Trichophyton rubrum*. The comprehensive management program includes removal of the unattached, infected nails as frequently as monthly, by a health care professional who has special competence in the diagnosis and treatment of nail disorders, including minor nail procedures. The safety and efficacy of using Penlac for greater than 48 weeks have not been established.

FDA Recommended Dosing

Penlac Nail Lacquer (ciclopirox) Topical Solution, 8%, should be applied once daily (preferably at bedtime or eight hours before washing) to all affected nails with the applicator brush provided. Penlac should be applied evenly over the entire nail plate. If possible, Penlac should be applied to the nail bed, hyponychium, and the under surface of the nail plate when it is free of the nail bed (e.g., onycholysis). Penlac should not be removed on a daily basis. Daily applications should be made over the previous coat and removed with alcohol every seven days. This cycle should be repeated throughout the duration of therapy.

Drug Availability

Penlac Nail Lacquer (ciclopirox) Topical Solution, 8%, is supplied in 3.3 mL and 6.6 mL glass bottles with screw caps which are fitted with brushes.

General Background

Pharmacology

Ciclopirox is a broad-spectrum, antifungal agent that inhibits the growth of pathogenic dermatophytes, yeasts, and *Malassezia furfur*. Ciclopirox exhibits fungicidal activity in vitro against isolates of *Trichophyton rubrum*, *Trichophyton mentagrophytes*, *Epidermophyton floccosum*, *Microsporum canis*, and *Candida albicans*.

Ciclopirox works by chelating the polyvalent cations (Fe⁺³ or Al⁺³) in the metal-dependent enzymes that are responsible for the degradation of peroxides within the fungal cell. Its mechanism of action is different from the systemic antifungal agents that interfere with the organism's sterol biosynthesis. Ciclopirox penetrates the human nail plate and keratin membrane in bovine hooves. The amount of drug that penetrates should be effective against dermatophytes and yeasts.

Application of ciclopirox nail lacquer topical solution to the nail and the immediately surrounding area can result in serum levels of ciclopirox. The estimated mean absorption of ciclopirox was less than 5% of the applied dose. The serum levels ranged from 12–80 ng/mL during six months of therapy; however, some of these patients were also being treated with ciclopirox cream 0.77%. Studies indicate the drug penetrates up to 0.4 mm after topical application in the nail lacquer formulation. The concentration of ciclopirox in the nail plate decreased as a function of nail depth. Evaluating the pharmacokinetics of oral antifungals, itraconazole and terbinafine, itraconazole has the longest half-life and can be administered as pulse dosing, characterized by one week of daily dosing followed by three weeks of no drug. Terbinafine is given daily for 6–12 weeks. Terbinafine and itraconazole are extensively bound to plasma proteins. Due to terbinafine's lipophilicity, the terminal half-life of terbinafine from skin and adipose tissue is 200–400 hours. Terbinafine and itraconazole are retained in the nail tissue for up to 10 months and 6–9 months, respectively, after ingestions. Terbinafine concentrations found in the nail are around 100-fold higher than the minimum inhibitory concentration (MIC) of the drug against dermatophytes.

Guidelines

The American Academy of Dermatology has published guidelines for the diagnosis and treatment of onychomycosis. Diagnosis is usually the result of careful history and physical examination. However, the guidelines recommend that if systemic therapy is to be used, clinical diagnosis should be confirmed by laboratory tests, such as a potassium hydroxide (KOH) test, or fungal culture. Onychomycosis causes the nails to become thickened, hard to cut and often painful, is worsened by moisture, warmth, trauma, communal bathing and other activities that lead to the exposure of fungi. Common complaints of the disorder are pain, deformed nails and interference with daily activities such as walking, typing, or playing a musical instrument.

Clinical Efficacy

The results of the use of ciclopirox nail lacquer topical solution, 8%, in treatment of onychomycosis of the toenail without lunula involvement were obtained from two double-blind, placebo-controlled studies conducted in the U.S. In these studies, patients with onychomycosis of the great toenails without lunula involvement were treated with ciclopirox topical solution, 8%, in conjunction with monthly removal of the unattached, infected toenail by the investigator. Ciclopirox nail lacquer topical solution, 8%, was applied for 48 weeks. At baseline, patients had 20–65% involvement of the target great toenail plate. Statistical significance was demonstrated in one of two studies for the endpoint "complete cure" (i.e., clear nail and negative mycology), and in two studies for the endpoint "almost clear" (i.e., equal to or less than 10% nail involvement and negative mycology) at the end of study.

Adverse Reactions

Those who suffer from the disease cite a substantial negative effect on their quality of life. Onychomycosis can give rise to complications such as cellulitis and therefore further compromise the limb in those with diabetes or peripheral vascular disease. While these complications may not be common, they are certainly serious. Onychomycosis can lead to much more serious consequences in patients with diabetes mellitus, such as nail removal, secondary bacterial infection, and increased risk of amputation. Fungal infection of the nails is also important in immunocompromised patients (i.e., patients diagnosed with human immunodeficiency virus (HIV), positive/acquired immunodeficiency syndrome (AIDS), cancer patients, particularly those taking anti-cancer medications, and transplant patients who are also taking drugs which suppress the immune system). These patients should be treated immediately to prevent future health problems.

The most frequent adverse reactions in the clinical trials included periungual erythema and erythema of the proximal nail fold. Other adverse events that were possibly related to the drug or its vehicle included changes in the shape of the nail, irritation of the nail, ingrown toenails, and discoloration of the nail. The effects of topical ciclopirox on the systemic antifungal agents used in the treatment of onychomycosis are unknown. Per manufacturer, concurrent use of ciclopirox topical solution and systemic antifungal agents is not recommended.

Coding/Billing Information

Note: This section is not in use.

References

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