

Ciclopirox Therapeutic Cheat Sheet

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TRADE NAME

- > Loprox Cream, Loprox Lotion, and Loprox Gel (ciclopirox 0.77%)
- > Loprox Shampoo (ciclopirox 1%)
- > Penlac Nail Lacquer (ciclopirox topical solution 8%)
- > Ciclodon Nail Lacquer (ciclopirox topical solution 8%)
- > CNL8 Nail Lacquer (ciclopirox topical solution 8%)

MECHANISM OF ACTION^{1-7,13}

- > Ciclopirox primarily functions by chelating polyvalent cations (Fe³⁺ or Al³⁺) resulting in the inhibition of metal-dependent enzymes responsible for peroxide degradation within fungal cells. This differentiates ciclopirox from other antifungal agents, such as the azoles, which target the sterol synthesis of fungal cells.
- > Studies have also demonstrated that at higher concentrations ciclopirox may alter the cell permeability and the cell membrane of dermatophytes, *Candida albicans*, and *Malassezia furfur*.
- > Additionally, ciclopirox has anti-inflammatory activity via inhibition of prostaglandin and leukotriene synthesis.
- > In vitro, ciclopirox has also demonstrated activity against many gram-positive and gram-negative bacteria.
- > Ciclopirox is highly keratinophilic with good penetrance through the nail plate. Additionally, the evaporation of volatile solvents in the lacquer results in approximately 35% ciclopirox concentration in the remaining lacquer film providing a high concentration gradient for penetration into the nail.

FDA APPROVED FOR¹⁻⁵

- > Ciclopirox Cream and Lotion, 0.77%
 - > Tinea pedis, tinea cruris, and tinea corporis caused by *Trichophyton rubrum*, *Trichophyton mentagrophytes*, *Epidermophyton floccosum*, and *Microsporum canis* as
 - > Candidiasis due to *Candida albicans*
 - > Tinea versicolor due to *Malassezia furfur*
- > Ciclopirox Gel, 0.77%
 - > Interdigital tinea pedis and tinea corporis due to *Trichophyton rubrum*, *Trichophyton mentagrophytes*, and *Epidermophyton floccosum*
 - > Seborrheic dermatitis of the scalp
- > Ciclopirox Shampoo, 1%
 - > Seborrheic dermatitis of the scalp
- > Ciclopirox Nail Lacquer, topical solution, 8%
 - > Mild-moderate onychomycosis of fingernails and toenails without lunula involvement in immunocompetent patients due to *Trichophyton rubrum*

OFF-LABEL DERMATOLOGIC USES⁸

- > For seborrheic dermatitis in non-scalp sites.

DOSING¹⁻⁵

- > Ciclopirox 1% shampoo should be applied to the scalp and left on for 3 minutes before rinsing twice a week for four weeks.⁹
 - > Most pronounced improvement in clinical signs and symptoms was observed in patients treated with ciclopirox 1% shampoo either three times or two times a week, compared to patients treated with ciclopirox once a week and patients treated with vehicle.¹⁰
- > Ciclopirox cream and lotion should be applied to affected and surrounding skin twice a day for four weeks for tinea cruris and corporis and may be needed for up to 3 months for tinea pedis.
 - > In the clinical trial, ciclopirox olamine cream was found to be superior to the vehicle cream and equivalent to clotrimazole 1% cream for the treatment of tinea cruris and tinea corporis when used twice a day for four weeks.¹¹
 - > For the treatment of tinea pedis associated with onychomycosis caused by *Trichophyton* species and *Epidermophyton floccosum*, ciclopirox olamine cream was applied 2-3 times daily for at least 3 months. In this clinical trial, tinea pedis was cured in 42% of patients and improved in 45% of patients.¹¹

- > For cutaneous candidiasis, a multicenter clinical trial demonstrated faster cure rate with ciclopirox cream than treatment with other imidazole-type antimycotic.
- > For seborrheic dermatitis, studies demonstrated clinical efficacy with twice daily application for four weeks followed by once daily application for four weeks.
- > Ciclopirox gel should be applied to affected area and surrounding skin twice a day for four weeks.¹¹
 - > In a large randomized controlled trial, improvement was seen in 2 weeks of treatment, and 66% of patients at the end of the four-week trial were found to be cured for interdigital tinea pedis.
- > Ciclopirox nail lacquer should be applied to entire nail plate and surrounding skin once daily for 48 weeks.
 - > In the US clinical trials, the mycologic cure rates ranged from 29-36% for the treatment of onychomycosis caused by *Trichophyton rubrum* and of mild-moderate toe onychomycosis without lunula involvement.¹²

SIDE EFFECTS^{1-5,7}

- > Most common side effects noted with the cream, gel, and shampoo include application site dermatitis, pruritus, and burning.
- > Most common side effects noted with topical 8% solution include periungal erythema and erythema of the proximal nail fold.

DRUG INTERACTIONS¹⁻⁵

- > None

CONTRAINDICATIONS¹⁻⁵

- > Contraindicated in individuals who have hypersensitivity to any of its components.

PREGNANCY AND BREASTFEEDING^{1-5,14}

- > There is no available data on the use of ciclopirox in pregnant women and it is considered Pregnancy Category B. The use of topical ciclopirox should be used during pregnancy only if the potential benefit justifies the potential risk to the fetus.
- > Although there is no clinical data available during lactation, it is considered low risk to the nursing infant as only 1.3% of topical ciclopirox is absorbed. Ciclopirox should not be applied in areas where it would come in direct contact with the infant's skin.

MONITORING

- > None

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