



July 2017

Compounded Options When Facing the Rising Costs of Nail Fungus Prescriptions

There are a number of advertised products for nail fungus that are available with a prescription, but some are not as effective as their claims suggest. Furthermore, these costly drugs are **often not covered by insurance**, and when they are covered, the **copay may be unaffordable**. As a result, patients often walk away without their medication, and their problems persist. However, Moss Compounding Pharmacy is able to prepare combination topical therapies with positive clinical outcomes and often lower cost.

For quick reference, below is information on some well-known commercial products

| Name | Active Ingredient | Size | Potential Cost to Patient per Rx (USD) |
|----------|---|------|--|
| Jublia® | Efinaconazole 10% (topical solution) | 4mL | ~\$680 |
| | | 8mL | ~\$1,375 |
| Umecta® | Urea 40% (topical emulsion) | 4oz | ~\$300 |
| Kerydin® | Tavaborole 5% (topical solution) | 4mL | ~\$685 |
| | | 10mL | \$1,710 |

**NOTE: Anti-fungal nail treatment typically requires a 4-6 month course of therapy to ensure new healthy nail growth does not become infected.*

Some **commonly requested COMPOUNDED formulations** containing multiple active ingredients for patients with nail fungal infections are listed below. We have seen positive results with these options. **(Each less than \$90 per Rx)** - (Rx Templates available, call to request a copy)

| Name | SIG | Quantity | Notes |
|--|--|----------|---|
| Fluconazole 1%/Ibuprofen2% DMSO Nail Solution | Apply BID to affected nail(s) and/or cuticle for 3-6 months. | 15mL | Typically provide 4-5 refills for treatment cycle. |
| Urea 40% Nail Gel | Apply QHS, occlude with bandage. Use 5-10 days until nail plate removed. | 20mL | Chemical removal of severely infected nail. Use Fluconazole/Ibuprofen solution after until nail grows back. |

Urea has keratolytic, hydrating and softening properties that enhance the permeability of the nail plate to drugs. Diseased nails may be chemically removed using topical urea. A urea formulation is applied onto the diseased nail plates under occlusive dressings. Urea softens the plate and, after 5–10 days, the entire nail plate may be lifted off the nail bed and trimmed behind the proximal nail fold. A disease-free nail may then grow back.

Ibuprofen, as a review of the literature indicates, has some antifungal properties of its own. It also can synergize the effect of several antifungal drugs on various fungal infections. Ibuprofen can disrupt the biofilm of various fungal infections as well.

DMSO has been used for many years to help increase penetration through the nail. DMSO has also been shown to have keratolytic properties.

Azoles, such as **fluconazole**, are popular medications to eliminate fungal infections. Azole drugs inhibit CYP-dependent sterol 14 α -demethylase, which causes depletion of ergosterol, accumulation of precursor sterols, impairments in fungal membrane structure and function, and fungal cell death.