

## TOENAIL FUNGUS

Toenail fungus, otherwise known as onychomycosis, is an extremely common and persistent problem. Certain people seem to have a unique pre-disposition to this toenail infection which makes it difficult to achieve a permanent cure. Permanently curing this condition requires determination, persistence and know-how. Often, a more realistic approach is palliative treatment instead of permanent cure.

The gold standard for the treatment of onychomycosis is systemic terbinafine. This treatment usually requires at least 3 to 4 months of ongoing daily medication. Care must be taken for individuals who have certain pre-existing conditions or who are taking other medications that may interact with this drug. After approximately 6 to 12 months the majority of individuals will improve, however, without some type of ongoing maintenance, relapse is almost certain.

There are numerous recommendations floating around for the topical treatment of onychomycosis. These range from various formulations of vinegar to the use of Vicks VapoRub. Topical antifungal creams, sprays and powders fail because of lack of penetration into the nail tissue. Even complete removal of the affected nail usually results in relapse.

### Prescription Options

There are three topical prescription products available in the United States specifically for the treatment of nail fungus. Listed below are their names, approximate effectiveness and approximate cost:

1. Ciclopirox 8% nail lacquer, in one large study, was shown to clear about 40% of cases. In my clinical experience, this number is significantly less. The price of this medication is approximately \$60 for 6.6 ml of the generic. As a point of reference, a teaspoon holds 5 ml.
2. Jublia, in studies provided by the drug manufacturer, gave 20 to 30% clearance rates after 48 weeks of treatment. This medication costs approximately \$645 for 4 ml.
3. Kerydin, in company provided information, gave response rates of a little below 20% at one year. This drug is also priced at approximately \$645 for 4 ml.

### Over the Counter Treatment Plan

Due to the lack of cost effectiveness of current prescription topical treatments, my preferred topical treatment for onychomycosis is the following:

1. Apply over the counter terbinafine cream (\$15.99/30gm) to both feet, toes, web spaces and nails once daily. Most people will have coexisting athlete's foot and this strategy will help contain the infection.
2. Apply 47% urea gel (KERA Nail Gel \$30/30 ml) thoroughly over and under the affected nails nightly. If possible, work some of the terbinafine cream under the nail while applying the urea gel. This concentration of urea will help dissolve away the infected nail, thus allowing the terbinafine to penetrate more effectively.

This treatment should be continued for three to six months and then reassessed. While I do not have any research data on the effectiveness of this treatment, it is my clinical experience that many patients show improvement comparable to the much higher priced prescription topical medications.

### Prescription Treatment Plan

For those highly motivated individuals in good health and not taking any other medications, I recommend the following approach for a complete and permanent cure:

1. Systemic prescription terbinafine daily for 3 to 4 months.
2. 47% urea gel nightly 3 to 4 months.

Upon completion of this treatment program, it is essential to continue preventative maintenance indefinitely. This is best accomplished with terbinafine cream applied to the feet, toes and nails daily after bathing.