

# The Impact of Antifungal Medication on Onychomycosis

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## DESCRIPTION

Onychomycosis is a fungal infection of nails and is caused by dermatophytes, yeasts, or nondermatophyte moulds, and signifies about 30% of mycotic cutaneous infections. Progressively onychomycosis is being seen as more than a major cosmetic problem. Onychomycosis continues to spread and persist despite improved personal hygiene and living conditions. The diagnosis of onychomycosis is based on the observation of diverse clinical patterns of nail plate involvement associated with fungal infection, as well as histology. Subungual onychomycosis, superficial onychomycosis, proximal subungual onychomycosis, endonyx onychomycosis, and complete dystrophic onychomycosis are the most common kinds. Furthermore, patients may exhibit various combinations of these patterns. Differentiating clinical behaviour, treatment response, and associated disease may be easier with the identification of clinical patterns of disease. Onychomycosis is more common as people get older, with a correlation between increasing age and infection. Genetics has also been recognised as a determinant of onychomycosis epidemiology; *T. rubrum* infection displays a familial pattern of autosomal dominant inheritance. Lifestyle may also play a role in the epidemiology of fungal nail infections. Age, predisposing factor, socioeconomic status, occupation, climate, living environment, and frequency of travel all influence the prevalence rate of onychomycosis. In immunocompromised patients, onychomycosis can be a major health condition. In onychomycosis, dermatophytes are the most commonly implicated causative agent. Previously thought to be pollutants, yeasts and certain moulds are now being recognised as pathogens in fingernail diseases. Onychomycosis is diagnosed based on the patient's medical history, physical examination,

microscopy, and culture of nail specimens. The treatment of onychomycosis has been endeavoured throughout the ages, but only in the last two periods have safe, effective systemic treatments been accessible for this chronic superficial fungal ailment. New systemic drugs that have a higher cure and lower relapse rates, cause fewer side effects, and are suited for short-term dosage have supplanted older medicines of choice for the treatment of onychomycosis. Microscopy and fungal culture are the best available techniques for diagnosing onychomycosis, although high false-negative rates have prompted the development of more precise approaches, such as histology and PCR. As NDMs are skin and laboratory contaminants confirming their existence as an infectious agent necessitates numerous confirmations and sampling. There are several treatment options obtainable, including oral antifungals, topicals and devices. Oral antifungals offer better cure rates and shorter treatment times than topical antifungals, but they come with drawbacks such as hepatotoxicity and medication interactions. Topical therapies including efinaconazole, tavaborole, ciclopirox, and amorolfine have fewer adverse effects, but they also have lower cure rates and require longer treatment periods. New topical formulations are being tested as faster-acting alternatives to existing topical therapies. Devices such as lasers have exposed promise in improving the cosmetic appearance of the nail, but due to a high dissimilarity of study procedures and delineations of cure, their effectiveness for onychomycosis has yet to be adequately proven. Onychomycosis has a high recurrence rate; once infected, patients should seek medical attention immediately and disinfect their shoes and socks. Topical use as a preventative measure, as well as avoiding going barefoot in public places, may help prevent recurrence.

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