Therapeutic Recommendations for the Treatment of Toenail Onychomycosis in the US

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SYNOPSIS
Onychomycosis—a fungal infection of the nail bed or plate—affects up to 14% of individuals in North America. It is undertreated and challenging to treat, as toenail growth can take up to 12 months or more, the nail plate may prevent drug penetration, and disease recurrence is common. National guidelines and consensus documents on onychomycosis diagnosis and treatment were last published more than 5 years ago (2016 and 2015—Canada)—assert the time that both topically efinaconazole and terbinafine were first approved in the US in 2014—Since then, more clinical data, post hoc analyses, meta-analyses, and FDA-approved indications have become available for onychomycosis drugs.

OBJECTIVE AND METHODS
To provide recommendations for the diagnosis and therapeutic treatment of onychomycosis following around discussion with the authors on March 15, 2021
Included in the decision tree for choosing appropriate medications based on disease severity and patient characteristics, as well as an example handout intended for patients on best practices to mitigate disease recurrence

RESULTS
Diagnosis, Testing, and Clinical Presentation
Careful assessment and testing must be performed when diagnosing onychomycosis, nail dystrophy can be induced by other disorders, and many common conditions that can mimic onychomycosis should be ruled out (Figure 1)
Laboratory testing should also be performed to identify the infecting organism and exclude non-fungal conditions. Figure 2 shows common options that are used in conjunction with clinical diagnosis

FIGURE 1. Differential Diagnoits Decision Tree

Concomitant meds
Pharmacologic (eg, personal care, footwear selection/care, laundry)
Expectations as well as follow-up care and maintenance post-treatment

Therapeutic Recommendations for the Treatment of Confirmed Onychomycosis

FIGURE 2. Decision Tree on Therapeutic Recommendations for the Treatment of Confirmed Onychomycosis

Patient Education
It is important to manage patient expectations when treating onychomycosis: optimal results can take over a year and concur with normal nail appearance may not be possible
Patients should also be educated on the high recurrence rates (6.5%–50%) as such, regular follow-up visits with patients are recommended (3–6 months after oral 1 year after topical treatment).
A physical handout (Figure 6) should also be provided to patients, explaining follow-up care/maintenance and highlighting the long-term treatment is more than just pharmacologic (eg, personal care, footwear selection/care, laundry)

FIGURE 3. Therapeutic Recommendations by Drug

Therapeutic recommendations by drug are also detailed in
National guidelines and consensus documents on onychomycosis diagnosis and treatment

FOR FIGURE 4: Patient Education Handout

What to know about fungal nail infections
• Nail fungus can be in your shoes, carpet, bathe, toal, rooms, etc.
• Toenail grow slow, so improvements could take 1–2 years to be noticeable.
• Even after the fungus is gone, the affected nail may never look completely normal.
• When the fungus is cleared, it can return.

Use treatment(s) recommended by your doctor and follow the steps below to help prevent new infections:

Personal Care and Laundry
• Keep nails short and clean.
• Only use a non-protein deterrent (detergent, bring your own tools and clean them)
• Don’t pick or trim your nails or scratch your feet with fingernail.
• Don’t use the same clippers/file used on ordinary nails on toenails.
• Don’t share personal nail care instruments, soap, or towels.
• Wash your hands after contact with infected feet or nails.
• Dry feet thoroughly after washing.
• Wash socks, and clothes after every use. Scissors and other contaminated clothing should be washed at 140°F (60°C).

Footwear
• Wear properly sized shoes with adequate toeboxes. Avoid narrow shoes or high heels. Avoid non-breathable athletic shoes.
• Don’t walk barefoot in public facilities such as pools, spas, locker rooms, show, or gyms. Wear flipflops or or bare脚下.
• When trying on new shoes, always wear socks.
• Use antifungal spray or powder in your shoes and/or a UV shoe sanitizer everyday.
• Wear moisture-wicking socks or wear fewer or a lower ankle socks.
• Alternate athletic shoes to allow various shoes dry thoroughly for 2–3 days between uses.
• Compress with feet wet for 500 ml of use.

When to contact your doctor
• If family/household members have athlete’s foot or nail infections, they should seek treatment and take precautions to prevent spread.
• If you receive signs of athlete’s foot or infection of the nails, contact your doctor as soon as possible.

REFERENCES

AUTHOR DISCLOSURES

ACKNOWLEDGEMENTS: Medical writing support was provided by Prescott Medical Communications Group (Chicago, IL) with finacial support from Ortho Dermatologics; Ortho Dermatologics is a division of Bausch Health US, LLC • Presented at Fall Clinical Dermatology Conference • October 21-24, 2021 • Las Vegas, NV


*AUTHOR DISCLOSURES*