



# Ugly Toenails

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A 56-year-old male has noticed that his toenails have been slowly changing over the past ten years. They have gotten thicker and occasionally cause him discomfort. He finds cutting his toenails to be increasingly difficult.

## 1. What is the most likely diagnosis?

- Subungual wart
- Tinea pedis
- Onychomycosis
- Traumatic nail changes
- Pseudomonas nail infection

## 2. What are some risk factors for developing this lesion?

- Older age
- Male
- Frequent pool or public shower usage
- Prior trauma
- All of the above

## 3. How could you manage this lesion?

- Topical ciclopirox olamine
- Oral terbinafine
- Pulse therapy of itraconazole
- Nail avulsion
- All of the above

Onychomycosis is a fungal infection affecting most commonly the toenails. It can affect any component of the nail unit, including the nail matrix, the nail bed, or the nail plate. In most cases it provides cosmetic concern, but occasionally there can be discomfort and pain.

The prevalence of onychomycosis is approximately 6% and it accounts for half of all nail disorders. It is uncommon in childhood, and quite prevalent in the elderly (up to 90%). The most common organism is the dermatophyte *Trichophyton rubrum*. Onychomycosis is



caused by 3 main types of fungi: dermatophytes, yeasts, and non-dermatophyte molds. The clinical appearance is indistinguishable based on the species of fungus.

The main subtypes include: distal lateral subungual onychomycosis (DLSO), white superficial onychomycosis (WSO), proximal subungual onychomycosis (PSO), and candidal onychomycosis. Affected nails show: thickness, an opacified nail plate, subungual thickening, and/or onycholysis. Discoloration ranges from white to brown in colour.

Diagnosis is usually clinical, although the nail changes of psoriasis or lichen planus and the effects of aging can have a similar appearance. Direct microscopy with 20% potassium hydroxide can be beneficial, and a fungal culture is used to identify the species of organism.

Topical therapy is beneficial in mild cases involving the very distal nail plate and especially in combination with systemic therapy or where the patient is on multiple oral medications. The best topical therapy option is likely ciclopirox olamine 8% nail lacquer solution (Penlac®). Treatment of onychomycosis (especially multiple nails) is largely systemic with terbinafine considered by most to be the drug of choice. Less commonly, itraconazole pulse therapy is employed or nail avulsion. Not treating the nails is a common and important option to discuss.