

UNIVERSITY STUDENT HEALTH SERVICES • Fact Sheet

ONYCHOMYCOSIS (Tinea Unguium)**WHAT IS IT?**

Onychomycosis is a fungal infection of the nails. It is the most common nail disease in adults. Toenails are more likely to be infected than fingernails. Because fungi like warm, moist environments, the inside of a shoe is a perfect place for fungi to grow.

WHAT CAUSES IT?

Onychomycosis is caused by 3 main classes of fungi: dermatophytes (fungi that specifically infect hair, skin, and nails), yeasts, and nondermatophyte molds. Dermatophytes are the most common cause of onychomycosis.

Typically, a fungal infection starts on the skin, then spreads to and invades the underside of an adjacent nail. A common example is someone with “athlete’s foot” (a fungal infection of the foot) who develops a toenail infection.

Fungal infections are the cause of abnormal appearing nails in only about 50-60% of cases. Trauma, psoriasis, eczematous conditions, iron deficiency, and other conditions often have similar symptoms.

IS IT CONTAGIOUS?

Nail fungus is not highly contagious. It can be transmitted from person to person but only with constant intimate contact.

WHAT ARE THE SYMPTOMS?

Onychomycosis usually begins as a white or yellow spot on the nail that spreads, causing discoloration and thickening of the nail. Eventually the nail may separate from the nail bed underneath.

Mild symptoms generally lead to cosmetic problems only. However, if a toenail becomes severely thickened and presses against the inside of a shoe, it can cause significant pain and irritation.

HOW IS IT DIAGNOSED?

Onychomycosis is often diagnosed simply by its appearance. A nail scraping can be performed and examined under the microscope to confirm the presence of fungi. Nail samples may also be sent to the laboratory to see if fungi will grow in a special medium. A positive test, or fungal culture, identifies the specific fungus causing the infection.

HOW IS IT TREATED?

Nail infections are difficult to treat, and recurrence is common. Treatments vary and are based on the severity of the infection.

■ **Oral antifungal medications** work about 50-75% of the time. It can take 9-12 months to see positive results because that is how long it takes for a nail to grow out. Even when therapy works, the fungus may come back 20-50% of the time.

- ❖ If oral antifungal medications are being considered, the diagnosis should be confirmed by a lab test. If a nail scraping does not show fungi, then a fungal nail culture should be sent.
- ❖ Oral medications require close monitoring as they can have adverse side effects, especially on the liver.
- ❖ At Student Health, a referral to a specialist is recommended for this type of treatment.

■ **Antifungal creams** are not effective against nail fungus because they do not penetrate nails well.

■ **An antifungal lacquer** called Ciclopirox can be applied once daily to nails that are mildly to moderately infected, but this treatment only works about 7% of the time.

HOME REMEDIES

If you have a mild infection, starting with a home treatment may be helpful. The following home remedies consist of natural fungicides and/or antiseptics. Many months of treatment will be needed to see results. These treatments should be continued until all symptoms disappear.

■ **Treatment Options**

- ❖ **Vicks VapoRub Salve:** Apply this to the nail and under the nail edge twice a day. Cover with a band-aid, and leave it on as long as possible, ideally 8 hours or more.
- ❖ **Vinegar Soaks:** Mix equal parts white/plain vinegar and warm water (about 1 cup each). Soak the affected nail(s) for 10-20 minutes once or twice a day.
- ❖ **Tea Tree Oil with Lavender Oil:** Mix equal parts tea tree oil and lavender oil. Apply the mixture to the nail and under the nail edge twice a day.
- ❖ **Listerine Mouth Wash:** Soak the affected nail in Listerine for 20 minutes twice a day.

■ **Nail Care For Home Treatments**

- ❖ First, trim the nail back if possible. Carefully remove the infected part of the nail (the thick yellow-white, soft, or cheesy area of the nail).
 - It's important to clean nail clippers after using them on infected nails. Soak the clippers in 90% isopropyl alcohol or Listerine for several hours.
 - Do not share nail clippers with others.
- ❖ The infected part of the nail may turn black with these home remedies, but this change will not be permanent. The healthy part of the nail is usually not affected.
- ❖ Do not apply nail polish until symptoms have resolved.
- ❖ Do not pick at the infected nail, as this can spread the fungus to other nails.

FOOT CARE

Here are some tips to prevent fungal infections of the feet and toenails. It's also important to follow these recommendations during treatment.

- ❖ Sprinkle antifungal powders, such as Desenex or Tinactin, in your socks and shoes daily to reduce the foot fungus that is the source of the nail infection.
- ❖ Wear cotton socks. Change socks and shoes if they become wet.
- ❖ Wear breathable footwear to avoid moisture retention. Avoid shoes that are tight in the toes.
- ❖ Avoid walking barefoot in public areas, like communal showers and locker rooms.

RECOMMENDED WEBSITES

- ❖ www.aad.org
- ❖ www.familydoctor.org
- ❖ www.mayoclinic.com