



Fungal Nail Infection

Nail fungus (onychomycosis) is a common condition that occurs when a fungus grows in and around your fingernail or toenail. It begins as a white or yellow spot under the tip of your fingernail or toenail. As the fungal infection goes deeper, nail fungus may cause your nail to discolor, thicken and crumble at the edge. It can affect several nails but usually not all of them. It commonly occurs along with athlete's foot (tinea pedis). If your condition is mild and not bothering you, you may not need treatment. If your nail fungus is painful and has caused thickened nails, self-care steps and medications may help. But even if treatment is successful, nail fungus often comes back.

Nail fungus occurs more often in toenails than in fingernails, partly because:

- Toenails often are confined in a dark, warm, moist environment — inside your shoes — where fungi can thrive
- Toes usually have less blood flow than do fingers, making it harder for your body's immune system to detect and stop infection

Risk Factors

- Being older, owing to reduced blood flow, more years of exposure to fungi and slower growing nails
- Perspiring heavily
- Being male, especially if you have a family history of nail fungal infections
- Working in a humid or moist environment or in a job where your hands are often wet, such as bartending or housekeeping
- Wearing socks and shoes that hinder ventilation and don't absorb perspiration
- Living with someone who has nail fungus
- Walking barefoot in damp communal areas, such as swimming pools, gyms and shower rooms
- Getting manicures or pedicures with tools that have been used on other people
- Having athlete's foot
- Having a minor skin or nail injury or a skin condition, such as psoriasis
- Having diabetes, circulation problems, a weakened immune system or, in children, Down syndrome

Symptoms

- Thickened
- Brittle, crumbly or ragged
- Distorted in shape
- Dull, with no shine
- A dark color, caused by debris building up under your nail

Exams and tests

Your health care provider will look at your nails to determine if you have a fungal infection. He or she may scrape some debris from under your nail and send it to a lab to identify the type of fungus causing the infection.

Treatment

Fungal nail infections may be hard to treat, medicines clear up fungus in about half of patients. There is no fast fix for a fungal nail infection, as the affected nail must grow out. Even if treatment is successful, it may take up to a year for the new clear nail to grow. If you find relief from your signs and symptoms, repeat infections are common.



Often, you can take care of a fungal nail infection at home:

- **Try over-the-counter antifungal nail creams and ointments (such as Lamisil AT).** Several products are available. If you notice white markings on the surface of the nail, file them off, soak your nails in water, dry them, and apply the medicated cream or lotion. If you have athlete's foot as well as nail fungus, treat the athlete's foot with medicated powders or sprays and keep your feet clean and dry.
- **Apply Vicks VapoRub.** Apply a small amount of the product daily to the nail, cuticle and toe for up to 48 weeks.
- **Apply Tea Tree Oil.** Apply 100% solution two times daily to the nail and cuticle for 6 months.
- **Trim and thin the nails.** This helps reduce pain by reducing pressure on the nails. Also, if you do this before applying an antifungal, the drug can reach deeper layers of the nail. Before trimming or using a nail file to thin thick nails, soften them. You can do this with the following nightly routine: Apply urea cream to affected nails, cover them with a bandage, and wash off the urea with soap and water in the morning. Repeat until the nails soften. Protect the skin around your nails with petroleum jelly.
If you have a condition that causes poor blood flow to your feet and you can't trim your nails, see a health care provider regularly to have your nails trimmed.

If self-care strategies and over-the-counter (nonprescription) products haven't helped, your doctor may suggest a combination of prescription drugs and other approaches.

Medications

- **Oral antifungal drugs.** Your health care provider may prescribe an oral antifungal drug. These drugs help a new nail grow free of infection, slowly replacing the infected part. You typically take this type of drug for six to 12 weeks. But you won't see the end result of treatment until the nail grows back completely. It may take four months or longer to eliminate an infection. Oral antifungal drugs may cause side effects ranging from skin rash to liver damage. You may need occasional blood tests to check on how you're doing with these types of drugs.
- **Medicated nail polish.** Your doctor may prescribe an antifungal nail polish called ciclopirox (Penlac). You paint it on your infected nails and surrounding skin once a day. After seven days, you wipe the piled-on layers clean with alcohol and begin fresh applications. You may need to use this type of nail polish daily for a year.
- **Medicated nail cream.** Your doctor may prescribe an antifungal cream, which you rub into your infected nails after soaking. These creams may work better if you first thin the nails. This helps the medication get through the hard nail surface to the underlying fungus.

To thin nails, you apply an over-the-counter (nonprescription) lotion containing urea. Or your doctor may thin the surface of the nail (debride) with a file or other tool.

Surgical or other procedures

- **Nail removal.** If your nail infection is severe or extremely painful, your doctor may suggest removing your nail. A new nail will usually grow in its place. But it will come in slowly and may take as long as a year to grow back completely.

Prevention

- **Wash regularly and keep your nails short and dry.** Wash your hands and feet with soap and water, rinse, and dry thoroughly, including between the toes. Trim nails straight across and file down thickened areas.
- **Wear socks that absorb sweat.** Fabrics effective at wicking away moisture include wool, nylon and polypropylene. Change your socks often, especially if you have sweaty feet.
- **Choose shoes that reduce humidity.** It also helps to occasionally take off your shoes or wear open-toe footwear.



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- **Discard old shoes.** If possible, avoid wearing old shoes, which can harbor fungi and cause a reinfection. Or treat them with disinfectants or antifungal powders.
- **Use an antifungal spray or powder.** Spray or sprinkle your feet and the insides of your shoes.
- **Wear rubber gloves.** This protects your hands from overexposure to water. Between uses, turn the gloves inside out to dry.
- **Don't trim or pick at the skin around your nails.** This may give germs access to your skin and nails.
- **Don't go barefoot in public places.** Wear sandals or shoes around pools, showers, and locker rooms.
- **Choose a reputable nail salon.** Make sure the place you go for a manicure or pedicure sterilizes its instruments. Better yet, bring your own and disinfect them after use.
- **Give up nail polish and artificial nails.** Although it may be tempting to hide nail fungal infections under a coat of pretty pink polish, this can trap unwanted moisture and worsen the infection.
- **Wash your hands after touching an infected nail.** Nail fungus can spread from nail to nail.

Sources: Mayo Clinic, A.D.A.M. Quick Sheets, The Prescriber's Letter