



Midwest PodiatryTM Centers

Fungal Infections

**Trouble from Dark
and Damp Places**

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Who Needs This Guide?

In short: everyone.

Foot fungus has developed a hearty ability to survive over time, and that includes the varieties that wish to invade the skin and nails of our feet. If a major cataclysm ever struck the earth, you could feel pretty safe in betting that fungus would survive over humans.

Nobody is immune from fungal infections. Our best weapons against them are measures to reduce our risk of contracting them, and taking swift and effective actions to treat infections should they occur.

If you currently have a fungal infection, this guide will discuss some of the potential ways it can be treated. Our practice is equipped not only with effective professional treatment methods, but also a certified lab to diagnose the root cause of each infection.

If you currently don't have a fungal infection or have recently recovered from one, this guide also has tips for greatly reducing your risk of picking up an infection (and no, recovering from a past infection does not mean you are immune against future attempts).

If you have any questions or concerns that aren't answered within this guide, please don't hesitate to contact us. We'll always be happy to provide the answers, guidance, and treatment you or your family need.

What Exactly Is Foot Fungus?

There are multitudes of different fungus types throughout the world. Each thrives best on certain types of food.

Most of the fungus that likes to live on our feet survive on keratin, a protein that is found in our nails, skin, and hair. These organisms are generally known as dermatophytes. The feet have keratin in abundance, and it can be relatively easier for dermatophytes to catch a ride on them than it is for other parts of our body.

Fungi tend to enter the feet through tiny cracks or weaknesses in the skin. This can be from a cut or other noticeable injury, but sometimes the entry point is too small for us to see.

More than 80 types of fungus can live on the feet, but most of them don't cause us any trouble whatsoever. There are still some, however, that can cause unsightly, itchy, painful problems.

Common Types of Fungal Infections

Although other types of fungal infections may exist on the feet, we will be focusing on the two most common: fungal toenails and athlete's foot.

Fungal Toenails

Toenail fungus (onychomycosis) is the most common nail disorder, present in up to 13% of the general US population. However, most of these cases tend to be hidden from public view as much as possible.

The reason for that is natural, as a fungal infection can leave the nails looking ravaged and unsightly over time. Nails with advanced fungal infections can be:

- **Discolored, typically in yellow, brown, or off-white hues.**
- **Significantly thicker.**
- **Brittle and crumbly.**
- **Scaly beneath the surface.**
- **Misshapen.**
- **Painful if the nail has shifted away from the nail bed (present in about half of cases).**
- **Uncomfortable when wearing shoes (present in more than a third of cases).**
- **Sometimes possessive of a faint foul odor.**

Toenail fungus can affect one or more nails, with the most frequently infected nails being on the big toe and smallest toe. Although dermatophytes often cause onychomycosis, certain types of yeasts, molds, and bacteria can also be responsible. Testing of a nail is often recommended to confirm what type of pathogen is present, and our practice is well-prepared to do so (see **Using Our On-Site Lab to Identify and Target the Culprit**).

Advanced stages of toenail fungus can be very stubborn against treatment, and it is always best to start acting against a fungal infection as early as possible. However, the earliest stages of a fungal nail infection seldom look as stark as the symptoms of an advanced infection above.

It is very easy to overlook the initial signs of an early fungal nail infection. It will often appear only as small whitish spots or streaks on the nail, much like you may expect to see from normal bumps or scratches against the surface. These blemishes do not fade over time, though, and may start to grow or change shape and color.

If you suspect an early fungal infection, it is best to have it evaluated. If you can catch the infection early, treating it will be much less challenging than after it has had months or even years to take root in the nail.



Athlete's Foot

Athlete's foot (tinea pedis) is a fungal skin infection caused solely by dermatophytes.

The symptoms of an athlete's foot infection tend to be difficult to ignore. They can include:

- **Pain, often described as stinging or burning**
- **Itching**
- **Scaliness**
- **Small blisters**
- **A moistness to the skin**
- **Skin discoloration (white, green, or yellow)**
- **Oozing discharge or sores, in uncommon cases**



Athlete's foot tends to be present between the toes, but can also appear around the sides and soles of the feet.

Although the condition is commonly referred to as athlete's foot, you do not need to be an athlete or otherwise frequently physically active to contract it. The condition is merely common among athletes who are often present in locations where the fungus has the best chances of thriving and spreading (more on this in the [What Can You Do to Lower Your Risk of Fungal Infections?](#) section).

Treating Fungal Infections

Different cases of fungal infections – even those that are the same type of condition – will often require different approaches to treatment depending on their severity, how far they have spread, the unique needs of each patient, and other important factors.

All of the following discussions on treatments should be taken as general information and not as direct recommendations on their own. Midwest Podiatry Centers only provide personal treatment recommendations to patients following a physical evaluation and/or discussion of symptoms.

At-Home Care

Treating fungal infections at home can have wildly varying results, depending on the condition that needs to be addressed.

All of the following discussions on treatments should be taken as general information and not as direct recommendations on their own. Midwest Podiatry Centers only provide personal treatment recommendations to patients following a physical evaluation and/or discussion of symptoms.

Fungal Toenails

Home remedies for fungal toenails tend to have very low success rates, especially in advanced cases.

There is no drought of potential remedies shared on social media, from apple cider vinegar to Listerine to menthol. Some of it might have at least some influence on fighting fungal infection, but the research remains very limited.

Much of the reason home treatment of fungal nails tends to be ineffective is how stubbornly the presence of the fungus remains in the nail. Strong, professional treatment is often required to fully reach and eradicate the fungus and keep it from growing back.

You have the right to attempt home treatment for your fungal nails, but please do not try anything that involves harming your nails or feet in any way. It should also be noted that the longer a fungal infection goes without effective treatment, the more opportunity it has to worsen and spread.



Athlete's Foot

As opposed to fungal nails, home treatment of an athlete's foot tends to be more successful for most mild cases.

Over-the-counter sprays and creams, when used as directed, can help eradicate the fungus responsible for a case of athlete's foot.

Keep your feet clean and dry as best as possible during the treatment phase as well. If possible, remove shoes and socks to allow your feet plenty of time to air out and stay dry. Try not to spend too much time in wet socks or footwear if it can be avoided.

If your athlete's foot does not clear up within 2 weeks, is especially painful, or has other symptoms that are interfering with your daily life, then please don't hesitate to contact us for professional help. If you have diabetes or other conditions that affect your circulation, the athlete's foot is also best left to professional care.

Professional Treatments

Many times professional treatments can get rid of fungal infections that home care methods have been unable to, or provide a much more direct, faster, and more efficient way of doing so.

Not all treatment recommendations will be the same for each patient, depending on the pathogen involved and other various factors. However, we will always happily discuss all options with you and answer any questions you may have on why we recommend one form of treatment over another.

Using Our On-Site Lab to Identify & Target the Culprit

Through the use of Midwest Podiatry Center's advanced laboratory testing techniques, we are capable of identifying the exact pathogens causing an infection. This allows our providers the ability to treat the infection with the most appropriate antifungal or other appropriate treatment.

Our CLIA-certified lab uses polymerase chain reaction (PCR) testing to test for fungus and other pathogens. This state-of-the-art technique has a high sensitivity and a turnaround time of 24-48 hours, making it much more efficient than the 1-4 weeks it may take to test cultures.

Promptly confirming what is at the root of an infection can save a patient time by identifying the most effective treatment for their needs first. We can be assured of attacking an infection sooner and safer.

Fungal Toenails

Professional treatments for fungal toenails tend to be much stronger and more effective than home remedies. We can more directly target the fungus living within the nail to eradicate it completely.

Topical ointments may be recommended for some fungal toenail cases, but direct contact will be necessary for best results. This might sometimes require filing thickened nails down to provide better access to the fungus hiding within them.

Oral antifungal pills are another potential treatment option. Oral medications have the advantage of being delivered to cells through the bloodstream, meaning they can reach and attack fungus more efficiently than topical medications.

A potential downside of oral antifungals, however, is side effects that might negatively affect certain patients – particularly those who have or may be at risk for liver conditions. Before prescribing an oral antifungal, we may recommend testing both to confirm that the pathogen responsible would be responsive to it and that it would be safe for use by the patient.

In some cases, we might recommend a combination of oral and topical medications for best results, or a different form of treatment altogether. In extreme cases, if other methods have not worked, we may remove the nail fully to provide relief and completely get rid of the infection. The nail will grow back in most cases.

Athlete's Foot

If at-home treatments have not been effective or your case of athlete's foot is severe, we may prescribe a stronger topical medication for daily application.

If topical medication is not effective, oral antifungal medications may also be an option.

What Can You Do to Lower Your Risk of Fungal Infections?

Almost anyone can pick up a fungal infection – even people who have already gotten rid of one in the past.

The good news is that the fungi responsible for both fungal toenails and athlete's foot have very similar characteristics and that the same general tips can help greatly reduce the risk of contracting both types of infection.

- The key lies in knowing what fungus needs to thrive:
- Moisture
- Warmth
- Dim light
- Access to your skin and nails



When these elements are interfered with, the fungus is much less likely to take hold. Keep these tips in mind:

- **Protect Your Feet in High-Risk Areas.** Public areas like gyms, locker rooms, showers, and around pools have a higher risk of fungal infection. They have the moisture and warmth fungus needs, and plenty of bare feet moving around as well. Wearing water shoes or sandals in these areas can help protect your feet. The more coverage, the better.
- **Keep Your Feet Clean and Dry.** Wash your feet every day with soap and water (and this does not mean just letting soapy water run down over them in the shower!). After each shower, gently but thoroughly dry your feet, including between the toes.
- **Stay Out of Wet Shoes.** After wearing shoes all day, provide at least 24 hours for them to air dry. If you can't wait that long, an electric boot dryer can help you keep more of the moisture fungus loves out of your footwear.
- **Stay Out of Wet Socks.** It can be easy to sweat in your socks all day. Opt for socks made of materials that tend to wick moisture away from the surface of your feet, such as wool or certain synthetics (not cotton). If you sweat profusely and can do so, switch into a clean, dry pair of socks during the day.
- **Never Share Materials.** The fungus can spread from person to person and from area to area on the body. Never share socks or shoes with anyone. Never share nail clippers either, and do not use the same clippers on your fingernails that you use on your toenails. Yes, it is possible to spread toenail fungus to your hands!
- **Consider Anti-Fungal Powders.** If you want some added protection in your footwear, a sprinkle of anti-fungal powder won't hurt. Just don't overload your shoes with the stuff, as it can cause your feet to slide around inside. This might cause calluses or blisters.

Conclusion – Take Care of Fungus Now

A fungal infection on the skin or nails is never something anyone wants to let others know they have, but you never have to worry about seeing us for the treatment you need.

We have seen and treated multitudes of patients with the same conditions and are more than happy to help you as well. The sooner and earlier we can start eliminating the fungus, the better!

Our offices throughout the Minneapolis region are ready to help. If you need us, give us a call and take the first step toward treatment today.



Start Your Journey Toward Healing

Check out one of our offices!

Blaine | Richfield | St. Anthony | Minneapolis | Plymouth
Minnetonka | Edina | Maple Grove | Burnsville