

Athlete's foot

Athlete's foot is an infection of the feet caused by fungus. The medical term is tinea pedis. Athlete's foot may last for a short or long time and may come back after treatment.

Causes

The body normally hosts a variety of microorganisms, including bacteria and fungi. Some of these are useful to the body. Others may, under certain conditions, multiply rapidly and cause infections. Athlete's foot occurs when a particular type of fungus grows and multiplies in your feet (especially between your toes) or, less commonly, your hands.

Of the fungal infections known as [tinea](#) infections, Athlete's foot is the most common. It may occur at the same time as other fungal skin infections such as ringworm or [jock itch](#). These fungi thrive in warm, moist areas. Your risk for getting athlete's foot increases if you:

- Wear closed shoes, especially if they are plastic-lined
- Keep your feet wet for prolonged periods of time
- Sweat a lot
- Develop a minor skin or nail injury

Athlete's foot is contagious, and can be passed through direct contact, or contact with items such as shoes, stockings, and shower or pool surfaces.

Symptoms

The most common symptom is cracked, flaking, peeling skin between the toes. The affected area is usually red and itchy. You may feel burning or stinging, and there may be blisters, oozing, or crusting. In addition to the toes, the symptoms can also occur on the heels, palms, and between the fingers.

If the fungus spreads to your nails, they can become discolored, thick, and even crumble.

See also: [Fungal nail infection](#)

Exams and Tests

The diagnosis is based primarily on the appearance of your skin. If tests are performed, they may include:

- Skin culture (fungi from flecks of skin are able to grow in the lab)
- [Skin lesion biopsy](#) (examination may show fungus under the microscope)
- [Skin lesion KOH exam](#) (skin scrapings in KOH show fungus under the microscope)

Treatment

Over-the-counter antifungal powders or creams can help control the infection. These generally contain miconazole, clotrimazole, or tolnaftate. Continue using the medicine for 1 - 2 weeks after the infection has cleared from your feet to prevent the infection from returning.

In addition:

- Keep your feet clean and dry, especially between your toes.
- Wash your feet thoroughly with soap and water and dry the area very carefully and completely. Try to do this at least twice a day.
- Wear clean, cotton socks and change your socks and shoes as often as necessary to keep your feet dry.

Athlete's foot almost always responds well to self-care, although it may come back. To prevent future infections, follow the steps listed in Prevention.

Severe, ongoing infections that don't respond to 2 - 4 weeks of self-care, and frequently recurring athlete's foot, may require further treatment by your health care provider. Stronger, prescription antifungal medications may be needed. These include topical medicines, like ketoconazole or

terbinafine, and pills. Antibiotics may be necessary to treat secondary bacterial infections that occur in addition to the fungus (for example, from scratching).

Outlook (Prognosis)

Athlete's foot infections range from mild to severe and may last a short or long time. They may persist or recur, but they generally respond well to treatment. Long-term medication and preventive measures may be needed.

Possible Complications

- Recurrence of athlete's foot
- Secondary bacterial skin infections such as [cellulitis](#)
- [Lymphangitis](#), lymphadenitis
- [Systemic](#) side effects of medications (see the specific medication)

When to Contact a Medical Professional

Call your doctor right away if:

- Your foot is swollen and warm to the touch, especially if there are red streaks. These are signs of a possible bacterial infection. Other signs include pus or other discharge and fever.
- You have diabetes and develop athlete's foot.

Also call your doctor if athlete's foot symptoms do not go away within one month of using self-care measures.

Prevention

To prevent athlete's foot, follow these measures:

- Dry your feet thoroughly after bathing or swimming.
- Wear sandals or flip-flops at a public shower or pool.
- Change your socks often to keep your feet dry. This should be done at least once a day.
- Use antifungal or drying powders to prevent athlete's foot if you are susceptible to getting it, or you frequent areas where athlete's foot fungus is common (like public showers).
- Wear shoes that are well ventilated and, preferably, made of natural material such as leather. It may help to alternate shoes each day, so they can dry completely between wearings. Avoid plastic-lined shoes.

Fungal nail infection

Fungal nail infection is an infection of the nails by a fungus.

Causes

The body normally hosts a variety of bacteria and fungi. Some of these are useful to the body. Others may multiply rapidly and form infections. Fungi can live on the dead tissues of the hair, nails, and outer skin layers.

Fungal infections include mold-like fungi that cause:

- [Athlete's foot](#)
- [Jock itch](#)
- [Ringworm](#)
- [Tinea capitis](#)

Fungal infections also include yeast-like fungi such as candida. Candida yeast infections include:

- [Cutaneous candidiasis](#)
- [Diaper rash](#)
- Oral thrush

- Some cases of genital rashes

Fungal nail infections are most often seen in adults. They often follow fungal infection of the feet. Toenails are affected more often than fingernails.

People who frequent public swimming pools, gyms, or shower rooms -- and people who perspire a great deal -- commonly have mold-like infections. The fungi that cause them thrive in warm, moist areas.

The following increase the risk of a fungal infection:

- Getting minor skin or nail injuries
- Having moist skin for a long time
- Wearing closed-in footwear

Symptoms

- [Nail changes](#) on one or more nails (usually toenails):
 - Brittleness
 - Change in nail shape
 - Crumbling of the nail
 - Debris trapped under the nail
 - Discoloration
 - Loosening (detaching) of the nail
 - Loss of luster and shine
 - Thickening

Exams and Tests

Your doctor will suspect a fungal infection based on the appearance of the nails.

The diagnosis can be confirmed by scraping the nail for a culture, or a microscopic examination to identify the type of fungus.

Treatment

Over-the-counter creams and ointments generally do not help treat this condition.

Prescription antifungal medicines taken by mouth may help clear the fungus in about 50% of patients. However, such medicines can cause side effects or may interfere with other medications. Some of the oral medications used to treat fungal infections of the nail can harm the liver.

In some cases, the health care provider may remove the nail. Nails grow slowly. Even if treatment is successful, a new, clearer nail may take up to a year to grow in.

Outlook (Prognosis)

The fungal nail infection is cured by the growth of new, non-infected nails.

Fungal nail infections may be difficult to treat. Even with successful treatment, it is common for the fungus to return.

Possible Complications

- Fungal infections that return on the nails or in other parts of the body
- Permanent damage to the nails
- Skin infections, including [paronychia](#)

When to Contact a Medical Professional

Call your health care provider if:

- You experience persistent fungal nail infections
- Your fingers become painful, red, or drain pus

Prevention

Good general health and hygiene help prevent fungal infections.

- Keep the skin clean and dry.
- Take proper care of your nails.
- Wash and dry your hands thoroughly after contact with any fungal infection.