

Clinical Pharmacy I
Dermatological Conditions
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Athlete's foot

It is a common contagious fungal skin infection known medically as **tinea pedis** that affects the skin on the feet and can spread to the toenails and sometimes the hands. The fungal infection is called athlete's foot because it's commonly seen in athletes.

Prevalence and Epidemiology

- Adults are more likely than children.
- Men are infected 2–4 times more often than women.
- Common in individuals who wear occlusive shoes (the condition called 'a penalty of civilization').

Etiology

- Tinea pedis is caused by different fungi including species of Trichophyton, Epidermophyton, and Microsporum.
- It is acquired by coming into contact with infected skin, or fungus in the environment.
- It may spread to others directly when people touch the infection.
- Indirectly by coming into contact with contaminated items (clothes, towels, etc.) or surfaces (such as bathroom, shower, or locker room floors, common places where the fungi can survive).
- A previous history of athlete's foot.
- People with diabetes or weakened immune systems.

What You Need To Know

- ✓ Duration
- ✓ Appearance
- ✓ Severity
- ✓ Broken skin
- ✓ Soreness
- ✓ Secondary infection
- ✓ Location
- ✓ Previous history
- ✓ Medication

Appearance (Clinical Features)

- Itchy, flaky skin in the web spaces between the toes.
- The flakes or scales of skin become white and macerated and begin to peel off.
- Underneath the scales, the skin is usually reddened and may be itchy and sore.

- The skin may be dry and scaly or moist and weeping
- Soft corns are most common in the fourth web space.

Severity

- A mild fungal infection.
- The skin between the toes becomes more macerated and broken and deeper and painful fissures may develop.
- The skin may then become inflamed and sore.
- Once the skin is broken, there is the potential for secondary bacterial infection to develop.
- If there are indications of bacterial involvement, such as weeping, pus or yellow crusts, then referral to the doctor is needed.

Location

- The web space between the fourth and fifth toes.
- More severe infections may spread to the sole of the foot and even to the upper surface in some cases.

Previous history

- A previous history of athlete's foot.
- Any diabetic patient has impaired circulation or innervation of the feet and is more prone to secondary infections in addition to poorer healing of open wounds.

Indicative of Referral

- Severe, affecting other parts of the foot
- Signs of bacterial infection
- Unresponsive to appropriate treatment
- Diabetic patients
- Involvement of toenails
- Treatment failure

Treatment timescale

If athlete's foot has not responded to treatment within 2 weeks, patients should see their doctor.

Management

- Creams, powders, solutions, sprays and paints.
- Regular application of the recommended product to clean, dry feet are essential and treatment must be continued after symptoms have gone to ensure eradication of the fungus.
- Individual products state the length of treatment and generally advise use for 1–2 weeks after the disappearance of all signs of infection.
 1. *Azoles (e.g. clotrimazole, ketoconazole and miconazole)*
- Have a wide spectrum of action (antifungal and antibacterial activity).

- 2-3 times daily treatment.
- Formulations include creams, powders and sprays.
- Cause mild irritation of the skin.
- Ketoconazole has a 1-week treatment period.

2. Terbinafine

- Available as cream, solution, spray and gel formulations.
- It is better than the azoles in preventing recurrence, so it will be useful where frequent bouts of athlete's foot are a problem.
- Cause redness, itching and stinging of the skin; contact with the eyes should be avoided.
- Terbinafine products are not recommended for use in children.

Dosage

- Cream (16 and over): Apply once or twice daily for 1 week.
- Spray/ Gel (16 and over): Apply once daily for one week.
- Solution (18 and over): Apply once between the toes and to the soles and sides of the feet and leave in contact for 24 h.

3. Tolnaftate

- Available in powder, cream, aerosol and solution formulations.
- Has only antifungal.
- Applied twice daily.
- Treatment should be continued for up to 6 weeks.
- Sting slightly when applied to infected skin.

4. Undecenoates (e.g. zinc undecenoate, undecenoic acid and methyl and propyl undecylenate)

- Undecenoic acid is an antifungal agent, sometimes formulated with zinc salt to give additional astringent properties.
- Treatment continued for 4 weeks.

5. Hydrocortisone cream or ointment

- Indicated for allergic and irritant dermatitis, insect bites or stings and mild-to-moderate eczema
- Although it would reduce inflammation, not recommended because it would not deal with the fungal infection, which might then worsen.
- Combination products containing hydrocortisone together with an antifungal agent.
- Treatment is limited to 7 days.



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