



Managing minor skin conditions of the feet

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Introduction

Minor skin conditions of the feet are usually harmless but can be bothersome and, if left untreated, can even become problematic, especially in diabetic patients or those with weakened immune systems. This article will discuss some of the minor skin conditions of the feet that can be managed in the pharmacy and the importance of referring patients to the doctor when necessary.

Corns, calluses, and cracked heels

Corns and calluses occur when layers of thick, hard skin develop due to frequent pressure and friction. Three types of corns can be distinguished, with hard corns usually forming on the top of the feet, soft corns on the side of the feet and seed corns on the bottom of the feet. Whilst corns are usually small, round lesions, calluses are larger, spread-out lesions with irregular shapes that form on the weight-bearing areas of the foot.

Those who wear ill-fitting shoes, shoes or sandals without socks, or go barefoot, are more likely to develop corns and calluses where there is constant friction on the skin. Structural deformities of the feet, such as bunions, can also contribute to the formation of corns and calluses.

Pressure on calluses of the heel can cause the already dry skin to crack (called fissures). Initially, the cracks are small but can, over time, get bigger and deeper, eventually bleeding and becoming painful. These cracks can also become infected.

Treatment

Treatment involves avoiding the repetitive actions that cause corns and calluses in the first place. Ensure that shoes fit comfortably with sufficient space. Special dough-nut shaped pads are available to alleviate pressure on corns to relieve pain. Existing corns and

calluses can be soaked in warm water daily to soften the skin (around 5–10 minutes). After soaking or while taking a bath, use a pumice stone, emery board, or loofah to remove a layer of the thick, hardened skin. Be careful not to go too deep as that can cause injury and bleeding that can lead to secondary infection. After debridement, an oil-based ointment or thick moisturising cream should be applied. A thin pair of socks may be worn to help protect the area. Creams containing salicylic acid, urea or ammonium lactate can also help soften skin over time.

Diabetic patients and patients with weakened immune systems are at increased risk of infection and should consult with a doctor for assistance with corns and calluses. When areas are red, swollen, and painful with oozing, it can be a sign of infection, and these patients should also be referred to a doctor. Where deformities such as bunions cause corns and calluses, patients need to be referred for further assessment and may need surgery to correct the deformity.

Athlete's foot

Athlete's foot, or *Tinea pedis*, is a fungal infection affecting the web spaces between the toes, mainly between the fourth and fifth toes of one or both feet. The infection can spread to the rest of the foot or the hands (in patients who pick or scratch the infected area). Infection causes a scaly, red, itchy rash that can result in fissuring that may be stinging, burning and sore.

This fungus thrives in warm, moist conditions and it is important to adhere to the following general measures for prevention and treatment of athlete's foot:

- Dry the areas between the toes properly following a bath, shower, or swimming.
- Use foot powder (preferably antifungal) daily to keep feet dry.
- Wear light, well-ventilated shoes that are loose around the toes.
- Protect feet in public areas such as public pools, saunas, communal baths, showers, and locker rooms by wearing waterproof shoes or sandals.
- For patients with sweaty feet, socks should be changed regularly, and shoes should be alternated to allow sufficient time for the shoes to dry properly.

Table I: Some treatment options available over-the-counter in South Africa for treatment of athlete's foot

Active ingredient	Trade name	Instructions for use
Terbinafine	Almatil® cream, Lamisil® (cream, gel, or spray), Terbaspor® cream, Terbicil® cream	Apply twice daily, for at least one week (For patients 12 years and older)
Ketoconazole	Ketazol® cream, Nizcreme®	Apply 1–2 times daily, for 4–6 weeks
Clotrimazole	Adco Normaspor®, Canalba®, Candaspor®, Candizole®, Canesten®, Canex T®, Clotrimazole Topical Biotech®	Apply 2–3 times daily, for 4–6 weeks
Miconazole	Daktarin cream®	Apply twice daily
Bifonazole	Canespor®	Apply once daily, for 2–4 weeks
Econazole	Pevaryl® (cream, powder, spray)	Apply up to 3 times daily, for 2–4 weeks

Treatment

Several topical preparations are available over-the-counter (OTC) for the treatment of athlete's foot. Zinc undecenoate (available as Mycota® powder or cream) applied twice daily may be used for a mild infection and should be continued for at least two weeks after symptoms disappear. Whitfield's ointment (benzoic acid with salicylic acid) may also be applied two to three times daily, but the salicylic acid may cause mild irritation of the skin.

Some of the other products available OTC in South Africa are listed in Table I. Although they are all effective, terbinafine has been shown to be more effective in preventing recurrence.

Treatment should continue for one to two weeks after symptoms have disappeared to ensure the fungus eradication. Although topical cortisones reduce the itch associated with athlete's foot, they do not treat the infection and should not be used as monotherapy. If used in combination with an antifungal, topical cortisone use should be limited to 7 days only. The use of antiperspirant and antifungal powder in all the patient's shoes helps absorb moisture and is recommended to prevent reinfection, softening, and peeling of the skin.

If athlete's foot does not improve within two weeks of starting treatment, the patient should be referred to a doctor. Patients with diabetes should also be referred to a doctor, especially if lesions are excessively red and/or warm with swelling or drainage.

Plantar warts

Plantar warts are growths on the feet caused by a viral infection of the top layer of the skin. Although they are not harmful, they can cause irritation or pain depending on their location. In general, they are about the size of a pencil eraser, but can occur in clusters (called mosaic warts), usually at the base of the toes, forefoot, or heels. Warts on the feet are usually flat and do not stick out on top of the skin because of the flattening effect of the pressure of walking. There is often a callus (thick skin) around the inward grown wart, and sometimes blood vessels growing through the wart can result in black pinpoint spots on the wart.

Treatment

If plantar warts are not bothersome, they may not need treatment and will eventually go away (sometimes after one to two years) without treatment. However, if they are bothersome, they may be treated with ointments, creams or gels that usually contain salicylic acid. Because they eat away at the skin, it is important to cover healthy skin around the wart, e.g. with plaster, to ensure that the

treatment is only in contact with the wart, and not the surrounding skin. Treatment can take weeks or months and is only effective around 50% of the time. Even when treatment is successful, warts may return. Treatment offered in a doctor's room where they freeze warts with liquid nitrogen or remove them with laser or surgery is usually more effective.

It is essential to see a doctor if the wart causes pain and discomfort that interferes with daily life, or if warts change appearance, bleed or multiply despite treatment. Diabetic patients and those who are immunosuppressed should also be referred to a doctor for management.

Conclusion

The pharmacist's assistant can play an important role in providing advice to patients for managing the skin conditions discussed in this article at home, following the abovementioned recommendations. However, because diabetic patients often do not have feeling in their feet, they need to take extra care and have their feet regularly inspected to prevent progression to more serious sores and ulcers.

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