## Fungal skin infections

## *Executive summary*

## Introduction

Common fungal skin infections in our environment include:

* Tinea pedis
* Tinea cruris
* Tinea corporis
* Tinea capitis
* Cutaneous candidiasis
* Pityriasis versicolor
* Seborrhoeic dermatitis
* Nail infections

## Target users

* Doctors
* Nurses

## Target area of use

* Gate clinic
* Outpatient department
* Ward

## Key areas of focus / New additions / Changes

This guideline outlines the management of fungal skin infections in our setting. In most cases topicals can be used in order to reduce the side effects of systemic treatment. Patients must be encouraged to continue treatment until the lesions have disappeared and then for a further week to reduce the incidence of treatment failure.

## Limitations

Terbinafine is not provided at the clinic and may be unaffordable for most patients.

## Presenting symptoms and signs

Most fungal skin infections present with an itchy rash.

**Tinea pedis:** Itching and/or burning sensation in the feet. It may present as:

* Interdigital: toe-web infection, usually occurs between two smallest toes with redness, blisters or softening and breaking down of the skin
* Moccasin: involves the entire sole of the foot and extend to the sides of the foot with peeling, cracking and scaling of the feet
* Vesicular: fluid-filled blisters on the underside of the foot, the toes, the heel or on top of the foot

**Tinea cruris:** Affects genitals, inner thighs and buttocks. It appears as a red, scaly, itchy rash that is often ring-shaped. It is mildly contagious

**Tinea corporis:** Occures anywhere on the body. Each lesion is circular, red, scaly flat lesion. The outer part of the rash is raised while the skin in the middle appears normal. Lesions may coalesce. It is contagious.

**Tinea capitis:** Affects the scalp and is most common in children. It is contagious and facilitated by overcrowding and poor hygiene. Features include:

* Itchy patches on the scalp, scaly, red areas with bald spots
* Broken off hair
* Brittle hair
* Painful scalp
* Crusty swellings which may become bacterially infected (kerion)
* Swollen cervical lymph nodes
* Low grade fever

**Cutaneous candidiasis:** Affects nearly any skin surface of the body but most common in warm, moist areas in contact such as the armpits, breast folds and groin. They are common among obese people, diabetics and people on antibiotics. In children, it causes a diaper rash. It presents as itchy or burning red patches that may ooze clear fluid with some surrounding pimple-like bumps. Other presentations include oral/vaginal thrush and nail infection. It is not contagious

**Pityriasis (tinea) versicolor**: Common among teenagers and young adults. It presents as multiple hypopigmented (light) or hyperpigmented (dark) scaly, dry patches usually over the face, neck, upper arms and trunk. The lesions may be itchy. It is not contagious.

**Seborrhoeic dermatitis**: Presents on the scalp as dandruff. It also involves the face, neck, trunk and any other hair-bearing area presenting as scaly hypopigmented or red patches. It is not contagious.

**Nail Infections (onychomycosis):** May present as thickened and discolored nails. Nails may become, black, yellow or green. The nail may be brittle and may separate from the nail bed. The underlying skin may become inflamed and infected.

If a cutaneous dermatophyte infection is misdiagnosed and initially treated with a topical corticosteroid, the appearance of the infection may be altered, making diagnosis more difficult (i.e., tinea incognito). Patients can develop diminished erythema and scale, loss of a well-defined border, exacerbation of disease, or a deep-seated folliculitis (Majocchi's granuloma).

The simultaneous presence of more than one type of dermatophyte infection is common (e.g. tinea pedis and tinea cruris or tinea pedis and tinea unguium). Performance of a full skin examination including the skin, hair, and nails aids in the detection of additional sites of infection. Occasionally, patients develop a dermatophytid reaction, a secondary dermatitic reaction at a distant site that may reflect an immunologic reaction to the infection.

## Management in Gate clinic

Most fungal skin infections can be treated with topical antifungals. Clotrimazole or miconazole cream can be applied thinly twice daily over localized lesions.

Seborrhoeic dermatitis and pityriasis versicolor can be treated with either ketoconazole shampoo or selenium sulfide shampoo applied to lesions twice weekly. Skin lesions in seborrhoeic dermatitis can also be treated with 1% hydrocortisone cream twice each day until healing occurs.

Tinea capitis can be treated with Whitfield’s ointment applied twice daily. Add cloxacillin 20-25 mg/kg (max 500 mg) QDS for 5 days if kerion is present.

**DO NOT** prescribe griseofulvin – as it is teratogenic even up to six months after conception. This is true for both men and women.

Review patients after 4 weeks of treatment to asses improvement. If rash shows some improvement, ask patient to continue treat treatment until one week after lesions have cleared.

Refer patients to the doctor if:

* Immunosuppressed (HIV, Diabetes mellitus)
* Widespread rash
* Unfamiliar rash / Rash does not appear typical
* No improvement after 4 weeks of treatment (except nail infections and pityriasis versicolor)
* Nail infections

## Management in OPD

For patients with widespread rash, atypical rash or minimal improvement on topical therapy, consider alternative diagnosis or background immunosuppression.

HIV testing, VDRL, Fasting blood glucose may assist in diagnosis of unusual rash.

Patients with fungal skin infections and immunosuppression may require systemic(oral) therapy. Options include fluconazole (continuous or pulse therapy), itraconazole or terbinafine. Drug interactions, contra-indications and adverse effects must be considered in drug choice.

Nail Infections: account for less than half of all nail lesions. Treatment of onychomycosis is not mandatory in all patients. Weigh the risk of treatment against potential benefit for each individual patient.

* Oral – terbinafine (76% effective), itraconazole (60% effective), or fluconazole (48 % effective). Oral ketoconazole is not usually recommended due to side effects and the need for a long course of treatment. However, it is often the only effective and affordable option in our setting. DO NOT prescribe griseofulvin (see note above).
* Others – chemical keratolytic agents (e.g. urea cream), surgical debridement of the affected nails.

**References**

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