



Medicine for Managers

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Fungal Infections

Fungal infections are common, affecting skin, hair and nails. They may frequently be transmitted from person to person by direct physical contact or from cats and dogs, and by sharing clothes, bedding, towels and even hairbrushes. Sometimes, fungi normally present within the body may proliferate and grow out of control. They are more likely to occur in warm, moist and undisturbed areas of the body.

Fungal infections are to be found in warm, damp and undisturbed areas. Such areas include the groin, between the cheeks of the buttocks, under the breasts in women, between the toes and in the vagina and the mouth. There are some types of fungus that don't need such a protected environment and they include ringworm and *tinea versicolor*.

For people who are healthy they are generally minor and easily treated. However they are more likely to occur if:

- Living in a humid environment
- Wearing tight clothes or shoes
- Being obese with folds of skin which contact each other

They are also more likely in those patients who:

- Have a compromised immune system such as in HIV/AIDS
- Are taking medication such as chemotherapy, steroids or antibiotic
- Have disorders such as diabetes

- Have skin disorders such as eczema or psoriasis

In such circumstances fungal infections may be more generalised and severe and more difficult to resolve.

The symptoms of fungal infections depend on the location and severity of the infection. There may be itching and some soreness. Between the toes there may be flaking and splitting of the skin, and toenails may become thickened, yellow and detach themselves. Vaginal symptoms include marked irritation and the production of a thick creamy white discharge. In the mouth the symptoms are often very minor. In the groin there is usually a spreading red, slightly flaky, uncomfortable rash on the inside of both legs and involving the groin.

Fungal infections of the groin, ringworm and athlete's foot are caused by a fungus called *tinea*. Fungal infections of the mouth and vagina, commonly called thrush, are caused by the fungus *Candida albicans*.

Ringworm (*tinea corporis*) is a highly infectious fungal infection of skin (which is nothing to do with worms!) which is passed from person to person or can be contracted from animals such as cats and dogs. The individual affected areas often have the appearance of a tide passing up a beach with a raised margin and fading behind the leading edge



Ringworm is treated with antifungal cream or sometimes with tablets. To avoid it spreading individuals should not share towels or bedding with affected people.

Ringworm may affect the scalp at any age but it mostly affects children. It causes scaly itchy



patches on the scalp with circular patches of hair loss. The scalp sometimes shows what appear to be black dots which are, in fact, broken hairs. The scalp areas may become inflamed and pus filled spots can develop, or crusted areas may form.

Athlete's Foot affects most people at some time. The fungus grows between the toes or on the soles of the feet, associated with the feet sweating. It causes itchy, white, flaky patches between the toes and the skin sometimes cracks. The sole may be itchy or scaly too.



Nail Infections caused by fungus can affect any part of the nail, toenails more commonly than fingernails. The nails may thicken, crack, break away and become discoloured. Such infections take months to grow out.



Tinea (pityriasis) versicolor is a common skin fungal infection usually presenting as multiple discoloured patches on the chest or back. The word 'versicolor' refers to the varying colours. Patches commonly appear pale and in those cases it seems to be because the fungus impairs the function of skin pigment cells.



The rash may become more apparent in the summer when unaffected areas tan but the fungal-affected areas remain pale.

Treatment is with a variety of medications which include:

- Clotrimazole, miconazole or ketoconazole (*Nizoral*)
- Selenium shampoo
- Terbinafine (*Lamasil*)
- Zinc pyrithione soap

Sometimes oral antifungals are used:

- Fluconazole (*Diflucan*) or Itraconazole (*Sporanox*)

Although the fungus may be destroyed the impaired pigmentation means that the patches remain pale and tend not to pigment until the following year.

Within the vagina, the presence of *lactobacillus*, a bacterium which produces lactic acid, inhibits the growth of thrush. Anything which damages the *lactobacilli*, such as antibiotics, ill-health, diabetes or even some deodorants and tampons, reduces the lactic acid and allows the thrush to grow. Treatment with anti-fungal pessaries or tablets is effective but women can prevent infections with the use of an acid vaginal jelly or the use of live natural yoghurt on

a tampon which replenishes the colonies of *lactobacilli*.

A common cause of thrush in the mouth of adults, after debility, diabetes, and the local reduction in immune resistance because of the use of steroid asthma sprays, is the persistent wearing of dentures. Many people do not like to be seen without their teeth in and, for the *Candida* infection (thrush) the space between the denture and the lining of the mouth is warm, moist and protected and ideal to allow the fungus to proliferate. The problem can be cured by regular removal of the dentures and thorough cleaning (although husbands, wives or partners may be exiled to another room if the teeth are left out!).

The best way to avoid fungal infections is to keep the skin clean and dry, have a healthy diet, avoid tight fitting underwear or trousers and make sure dentures are not worn perpetually and are kept well cleaned.

Women should avoid thrush vaginally by good local hygiene and by using an acid vaginal jelly if taking an antibiotic, and by wearing a well supporting bra if the bust is ample.

Almost always fungal infections are mild and easily treated. Occasionally they may be more serious and may indicate a more complex underlying disease. If a fungal infection is persistent or recurrent medical advice should be sought.

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