

## **Tinea capitis**

**Also known as** ringworm of the scalp

### **What is tinea capitis?**

Tinea capitis is a fungal infection of the scalp and hair. It most commonly affects children between three to seven years of age but adults can also be affected.

### **What causes tinea capitis?**

Tinea capitis is caused by a dermatophyte fungus. Infection may result from direct contact with an infected person, animal or from contact with a contaminated object (known as a fomite), e.g. hairbrush, comb, hat, towel, pillowcase or linen. The fungal spores can live for a few months on contaminated objects and infect a new person.

There are two major families of dermatophyte fungus that infect the scalp – Trichophyton (abbreviated as T) and Microsporum (abbreviated as M) fungi. These fungi are classified according to where they most naturally and easily grow e.g. in humans (anthropophilic), in animals (zoophilic) and in soil (geophilic).

The most common causes of tinea are T. tonsurans and M. canis. T. tonsurans is usually passed from one infected person to another. M. canis is passed on from an infected animal such as a kitten or a dog to a human.

Tinea capitis is more commonly found in crowded living environments.

### **What does tinea capitis look like?**

Some people present with dry itchy scaly areas on the scalp with patches of hair loss (alopecia) that grow slowly over months.

Some people present with black dots in the areas of hair loss. The black dots are the broken off hairs near the scalp.

Some people may develop an angry red mass (kerion) with pus and yellow crusts together with patches of hair loss.

Others develop large yellow crusts throughout the scalp (scutula).

Individuals affected with tinea capitis commonly have enlarged lymph glands on the back of their necks and ears.

### **How is tinea capitis diagnosed?**

Tinea capitis is diagnosed by a doctor. The doctor will suspect the diagnosis based on the appearance of the scalp and can confirm it by taking hair plucks and scrapings from scalp skin and having these examined under a microscope and sending them for culture. The doctor may use a special light called a Wood's light (long wave ultraviolet light) to identify some types of fungi. In cases that are not typical, the dermatologist may also request a skin biopsy to confirm the diagnosis.

### **What other problems can occur with tinea capitis?**

When tinea capitis is not treated early and correctly, it can cause permanent hair loss with scarring.

More severe infections can be associated with systemic symptoms such as feeling unwell with fevers, pain in involved areas and enlarged lymph glands.

Some people can experience a dermatitis or eczema-like rash (called an id reaction) elsewhere on their body if the fungal infection is very extensive or severe.

### **How is tinea capitis treated?**

Treatment is started as soon as the dermatologist suspects the diagnosis because it can take several weeks to identify the fungus through cultures. Most cases need oral antifungal tablets such as griseofulvin, fluconazole, itraconazole or terbinafine. Griseofulvin is most commonly used first especially for children. Treatment can take up to 6 weeks. In some cases, the dermatologist may request blood tests to check liver function. In cases that fail to respond, other antifungal agents may be needed.

In addition to medication, it is very important that the affected person also uses antifungal shampoos such as 2% ketoconazole shampoo to decrease the chances of spreading the infection whilst the tablet is taking effect. Close family members should do the same. All hairbrushes, combs, hats, towels, pillowcases and linen need to be disinfected (e.g. washed in hot water and ironed or treated with household bleach) to prevent the condition from recurring.

Schools should be notified especially if the fungus is a type that can be passed from person to person so that classmates can be examined by their doctor and treated if necessary.

### **What is the likely outcome of tinea capitis?**

Most tinea capitis, when treated early and correctly, will not result in permanent hair loss or scarring.

### **Follow up**

Individuals who are diagnosed with tinea capitis should be followed up by a dermatologist during and after the treatment to monitor for side effects and ensure clearance of disease.