CONDITION

Ringworm of the scalp

Ringworm of the scalp is a contagious fungal infection that causes scaling, broken hairs, and patches of hair loss.

WHAT IT IS
Contagious fungal infection of scalp skin and hair

BODY SYSTEM
Skin and hair

MAIN SYMPTOMS
Scaly patches, broken hairs, itching, patchy hair loss

WHAT CAUSES IT
Infection with dermatophyte fungi

HOW IT IS DIAGNOSED
Scalp hair microscopy and fungal culture

MAIN TREATMENT
Oral antifungal medicine with supportive antifungal shampoo

CAN IT BE CURED?
Yes, antifungal treatment usually clears infection

IS IT AN EMERGENCY?
No, but painful swelling needs prompt assessment

LONG-TERM OUTLOOK
Hair usually regrows; scarring can cause lasting loss

Overview

Ringworm of the scalp is a fungal infection of the scalp skin and hair. Its medical name is tinea capitis . Despite the name, it is not caused by a worm.

It mainly affects children, although teenagers and adults can also develop it. The infection can spread between people, from animals to people, or through objects carrying infected hairs.

Ringworm of the scalp matters because creams alone usually cannot clear it. The fungus grows inside or around the hair shaft, where creams and lotions do not reach well. Treatment normally requires antifungal medicine taken by mouth.

Most people recover with suitable treatment, and their hair grows back. However, a severe inflamed form called a kerion can damage hair follicles and occasionally cause permanent

areas of hair loss. Prompt assessment is especially important if the scalp becomes painful, swollen, or covered with pus-filled spots.

Symptoms

The appearance can differ from one person to another. Some infections look like ordinary dandruff at first, while others cause clear patches of hair loss.

Common symptoms include:

On darker skin, inflammation may look purple, gray, or darker than the surrounding skin rather than bright red. Scale can also be harder to see beneath thick or tightly curled hair.

A kerion is a strongly inflamed reaction to the fungus. It causes a soft or boggy swelling, often with crusting, pus-filled spots, pain, and loose hairs. It may resemble a bacterial abscess, but squeezing or draining it does not treat the fungal infection.

A less common form called favus can cause thick yellow crusts around hairs and an unpleasant smell. Without treatment, this form is more likely to scar.

Symptoms elsewhere on the body are possible because the same group of fungi can cause ringworm of the skin. Some people also develop an itchy rash away from the scalp as their immune system reacts to the infection. This does not always mean the fungus has spread to that area.

- Round or irregular areas of dry, scaly scalp
- Hairs that break close to the scalp, leaving short stubs
- Small dark dots where hairs have broken at skin level
- Patchy hair loss
- Itching, which may be mild or intense
- Tender or enlarged glands at the back of the head or neck

Causes and risk factors

Ringworm of the scalp is caused by fungi called dermatophytes . These fungi live on keratin, a protein found in skin, hair, and nails. Species from the Trichophyton and Microsporum groups are common causes.

The fungus can spread through:

Not everyone exposed develops an infection. Risk is higher among young children, people

living in close-contact households, and people who regularly share hair-care items. Contact sports and some group-living settings can also make transmission easier.

Adults can develop scalp ringworm, particularly if they have close contact with an infected child or animal. A weakened immune system may increase susceptibility, but many affected people are otherwise healthy.

Having ringworm is not a sign that someone is dirty. Ordinary washing does not reliably remove fungus once it has entered the hair shaft.

- Direct contact with an infected person
- Contact with an infected animal, especially a cat, dog, or small pet
- Shared combs, brushes, hair accessories, hats, towels, or pillowcases
- Hair-cutting or styling equipment that has not been properly cleaned
- Infected hairs on furniture, bedding, or other surfaces

Diagnosis

A healthcare professional will examine the scalp, hair, and nearby lymph glands. They may ask about contact with other people who have scalp problems, household outbreaks, hair-care practices, or contact with animals.

Other conditions can resemble scalp ringworm. These include dandruff, eczema, psoriasis, bacterial infection, alopecia areata, and hair damage caused by pulling or styling. For this reason, appearance alone may not be enough to confirm the cause.

A sample may be taken by gently scraping scale or collecting affected hairs. It can be examined under a microscope and sent for a fungal culture , which means allowing the fungus to grow in a laboratory. Culture can identify the species, although results may take several weeks.

Some services use a molecular test called PCR, which looks for fungal genetic material and may give faster results. A handheld magnifying tool called a dermatoscope can show patterns that support the diagnosis, but it does not always confirm which fungus is present.

A Wood's lamp uses ultraviolet light. Some Microsporum infections glow under it, but many common causes do not. A normal Wood's lamp examination therefore does not rule out scalp ringworm.

If the clinical signs are convincing, treatment may sometimes begin before laboratory results return.

Treatment and management

Ringworm of the scalp usually needs an oral antifungal medicine. Commonly used options include griseofulvin and terbinafine. Other antifungals like fluconazole or terbinafine may be considered in some circumstances. The choice depends on factors such as the likely fungal species, local availability, age, other health conditions, and possible medicine interactions.

Treatment generally continues for several weeks. It is important to take the medicine for the full recommended course, even if the scalp looks better sooner. Stopping early can allow the infection to remain.

Antifungal creams do not reach infected hairs deeply enough to cure scalp ringworm when used alone. An antifungal shampoo may be recommended alongside oral treatment. Shampoo can reduce fungus and spores on the scalp, which may lower the chance of spreading the infection, but it is not usually a cure by itself.

Oral antifungals can cause side effects. These may include stomach upset, headache, or skin rash. A prescriber may review other medicines and decide whether blood tests are needed, depending on the drug and the person's health.

A kerion still requires antifungal treatment. Additional treatment may sometimes be considered to control marked inflammation. Antibiotics like amoxicillin or doxycycline are only useful if there is also a bacterial infection; they do not kill the fungus.

Household members may be checked for symptoms or fungal carriage. In some situations, they may be advised to use an antifungal shampoo, even if they do not need oral medicine. Pets with bald, scaly, or crusted areas should be examined by a veterinarian.

Local school or childcare policies differ. Children can often return after effective treatment has started, but it is sensible to confirm the relevant policy and avoid sharing items that touch the head.

Complications

Most infections clear without lasting damage. Possible complications include:

A kerion can look worse shortly after treatment begins because inflammation may take time to settle. This does not necessarily mean treatment is failing. However, increasing pain, swelling, pus, fever, or spreading redness needs prompt reassessment.

- Temporary hair loss while infected hairs are shed
- Permanent scarring and hair loss after severe inflammation

- Secondary bacterial infection of scratched or damaged skin
- Spread to other people or other parts of the body
- An inflammatory rash caused by the immune response
- Emotional distress about visible scaling or hair loss

Prevention

There is no guaranteed way to prevent every case because infected people and animals may have subtle symptoms. Practical steps can reduce transmission.

Do not share combs, brushes, hats, helmets, towels, pillows, hair clippers, or hair accessories. Clean reusable hair equipment after use, and make sure salons and barbers use properly disinfected tools.

Wash pillowcases, towels, hats, and other washable items that regularly touch the affected scalp. Follow fabric-care instructions. Remove shed hairs from brushes, furniture, and floors.

Avoid scratching the affected area, and wash your hands after touching it or applying shampoo. Keep long hair-care items separate until treatment is underway.

Check close household contacts for scaling, itching, broken hairs, or hair loss. Do not share oral antifungal medicine or start treatment without an assessment, because several other scalp conditions can look similar.

If a pet has unexplained bald or scaly patches, arrange veterinary advice. Treating the person without addressing an infected animal can lead to reinfection.

Living with it and what to expect

Scalp scaling and itching often begin to improve during treatment, but visible recovery is not immediate. Damaged hairs must be shed and replaced, so patches may remain noticeable after the fungus has been controlled.

Hair commonly grows back over the following months if the follicles have not been scarred. New hair may initially look shorter or have a different texture. A kerion or long-standing favus carries a greater risk of lasting bald areas because deep inflammation can destroy follicles.

Follow-up may be needed if symptoms do not improve, return after treatment, or laboratory results show that a different antifungal would be more suitable. Some clinicians repeat fungal testing to check that the infection has cleared, particularly when signs remain or outbreaks

involve several people.

Treatment failure does not always mean the condition is permanent. Possible reasons include an incomplete course, difficulty absorbing the medicine, reinfection from a person or animal, or a fungus that responds better to another treatment.

Visible hair loss can affect confidence, especially at school or work. Gentle styling or a loose head covering may help while hair regrows. Avoid tight braids, harsh chemicals, scratching, or other practices that pull on inflamed hair.

When to get medical help

Arrange a routine medical appointment if you or your child has unexplained scalp scaling with broken hairs or patchy hair loss. Assessment is important because scalp ringworm usually needs prescription oral treatment and can resemble other conditions.

Seek prompt medical advice if there is:

Seek emergency help for trouble breathing, collapse, or swelling of the lips, tongue, face, or throat after taking medicine. A widespread blistering or peeling rash also requires emergency assessment. These may be signs of a serious medicine reaction rather than the scalp infection itself.

- A tender, soft, or boggy scalp swelling
- Pus, heavy crusting, or rapidly increasing inflammation
- Fever, worsening pain, or redness spreading beyond the patch
- New areas of hair loss during treatment
- No clear improvement after the expected treatment period
- Symptoms returning after treatment ends
- A suspected household, school, or childcare outbreak

Common questions

Is scalp ringworm caused by worms?

No. It is caused by fungi that infect the outer skin and hair. The name "ringworm" comes from the ring-shaped rash that fungal infections can cause on other parts of the body.

Can scalp ringworm go away without treatment?

It may persist for a long time without effective treatment and can continue spreading. Because the fungus is within or around the hair shaft, oral antifungal medicine is normally needed to clear it.

Will my hair grow back?

Hair usually grows back after the infection and inflammation settle. Regrowth takes time because new hairs must form. Severe inflammation, particularly a kerion, can sometimes scar the follicles and cause permanent hair loss.

Can I treat it with antifungal shampoo alone?

Usually not. Shampoo can reduce fungus on the scalp and may limit transmission, but it does not penetrate infected hairs well enough to provide a reliable cure. It is generally used with oral antifungal treatment.

Is scalp ringworm contagious?

Yes. It can spread through close contact, infected hairs, shared personal items, or contact with an infected animal. The risk falls after effective treatment begins, but precautions with shared hair-care items should continue as advised.

Does everyone in the household need treatment?

Not necessarily. Household members should be checked for symptoms, and a healthcare professional may recommend testing or antifungal shampoo in some situations. Oral medicine is not automatically required for everyone.

Sources

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