# Tinea Capitis (Ring Worm of the Scalp)

Cincinnati Children's
changing the outcome together

## FAST FACTS

**up to 19%**

Prevalence of tinea is as high as 19% in school-aged children, with Black children having the highest rates of infection at 12.9%.

**Tinea capitis is the most common fungal infection in school-aged children worldwide.**

## WHEN TO REFER

Refer to the Cincinnati Children's Dermatology for further evaluation and management if:

- Tinea capitis or kerion are not responding to treatment
- Child experiences a severe infection
- Child needs longer treatment duration or is still symptomatic after eight weeks of treatment

**If you have clinical questions about patients with tinea capitis, contact the Department of Dermatology at 513-636-4215 or dermatology@cchmc.org.**

**Tinea capitis is a fungal infection of the scalp. Typically, this infection is from contact with another infected human or animal (such as cats, dogs, cows and guinea pigs). It occurs most commonly in children and is more common in children who are pre-pubertal, male, lower socioeconomic status and/or Black.**

## ASSESSMENT

Perform standard history and physical exam. On examination, patients with tinia capitis usually have scaly patches with alopecia or patches of alopecia with black dots that represent broken hairs. Other presentations can include diffuse scaling of the scalp without alopecic patches. Cervical and occipital lymphadenopathy are also common in tinea capitis infections.

Provide tinea capitis treatment for children who have scalp rash plus lymphadenopathy.

The following are clinical variants of tinea capitis that may require treatment beyond first-line treatment for the condition.

- **Kerion.** A kerion includes an inflammatory plaque, often with pustules, crusting and drainage. This is typically painful or tender to the child.
- **Dermatophytid reactions.** These dermatitis-like eruptions often can be seen after treatment begins. Patients can develop a widespread, itchy rash on the head, trunk and extremities.

## MANAGEMENT/TREATMENT

Obtain a dermatophyte culture prior to starting treatment if suspicious of a fungal infection. Cultures can take a few weeks to have a final result. Therefore, consider treating empirically if clinical suspicion is high for tinea capitis. Perform a KOH prep in the office to quickly identify fungal hyphae.

First-line treatment for tinea capitis is with oral medications, either griseofulvin or terbinafine.

**Griseofulvin:**

- Microsize 20–25 mg/kg/day for 6–12 weeks
- Ultramicrosize 10–15 mg/kg/day for 6–12 weeks

**Terbinafine** (tablet form only; can be crushed/ mixed with food)

- 10–20 kg: 62.5 mg daily for 8 weeks
- 20–40 kg: 125 mg daily for 8 weeks
- 40+ kg: 250 mg daily for 8 weeks

Adjunct therapy should include using an antifungal shampoo (ex: ketoconazole 2%, selenium sulfide 1 or 2.5%) at least twice weekly to decrease the fungal spores and the likelihood of recurrence.

Treatment guidance for kerion and dermatophytid reactions appears on the next page.

If you would like additional copies of this tool, or would like more information, please contact the Physician Outreach and Engagement team at Cincinnati Children's.

Tool developed by Cincinnati Children's physician-hospital organization (known as Tri-State Child Health Services, Inc.) and staff in the James M. Anderson Center for Health Systems Excellence. Developed using expert consensus and informed by Best Evidence Statements, Care Practice Guidelines, and other evidence-based documents as available. For Evidence-Based Care Guidelines and references, see www.cincinnatichildrens.org/evidence.

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**Patient Presents**

## Standard Workup

- Situational History
- Physical Exam

## Typical Clinical Signs And Symptoms of Tinea Capitis

- Cervical and occipital lymphadenopathy
- Diffuse scaling of the scalp without alopecic patches
- Patches of alopecia with black dots
- Scaly patches with alopecia

## Additional Clinical Variants of Tinea Capitis

- Kerion
- Dermatophytid reactions

## High Suspicion of a Fungal Infection?

Obtain a dermatophyte culture prior to starting treatment. While waiting for results, consider treating empirically. Perform a potassium hydroxide (KOH) prep in office to quickly identify fungal hyphae.

**Yes**

**Yes**

## Provide First-Line Treatment

**First-line treatment for tinea capitis** is with oral medications, either griseofulvin or terbinafine.

**Griseofulvin:**

- Microsize 20–25 mg/kg/day for 6–12 weeks
- Ultramicrosize 10–15 mg/kg/day for 6–12 weeks

**Terbinafine** (tablet form only; can be crushed/ mixed with food)

- 10–20 kg: 62.5 mg daily for 8 weeks
- 20–40 kg: 125 mg daily for 8 weeks
- 40+ kg: 250 mg daily for 8 weeks

Griseofulvin is best absorbed when given with fatty foods, such as ice cream. If treatment failure occurs, poor absorption may be the cause.

Adjunct therapy should include using an antifungal shampoo (ex: ketoconazole 2%, selenium sulfide 1 or 2.5%) at least twice weekly to decrease the fungal spores and the likelihood of recurrence.

## Provide First-Line Treatment PLUS:

- Emollients, oral antihistamines and topical steroids if needed for dermatophytid reactions
- Oral prednisone for kerion: 1 mg/kg; taper over 1 month

## Refer to the Cincinnati Children's Dermatology if:

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**For urgent issues, or to speak with the specialist on call 24/7, call the Physician Priority Link® at 1-888-987-7997.**