

A COMPREHENSIVE REVIEW OF RINGWORM INFECTION: VARIATIONS BY BODY AREA, MYTHS, CAUSES, AND EFFECTIVE TREATMENT STRATEGIES

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ABSTRACT

Ringworm, or tinea, is a common fungal infection affecting the skin, nails, and scalp. This review explores the variations of ringworm by body area, debunks prevalent myths, examines its causes, and highlights effective treatment strategies. Ringworm manifests differently depending on the infected site, including tinea pedis (feet), tinea cruris (groin), tinea capitis (scalp), and tinea corporis (body). Misconceptions such as its association with worms or immunity post-infection are addressed to clarify its fungal origin and contagious nature. Causes include direct contact with infected individuals, animals, or contaminated surfaces, with risk factors such as humid climates and weakened immunity increasing susceptibility. Treatment typically involves topical or oral antifungal medications, with adherence to prescribed regimens being crucial for complete eradication. Preventive measures like maintaining hygiene and avoiding shared items are emphasized to curb transmission. This comprehensive review aims to enhance understanding and management of ringworm infections across diverse contexts.

Keywords: Tinea, Fungal Infection, Antifungal Treatment, Dermatophytosis, Skin Hygiene

1. INTRODUCTION

Ringworm, scientifically known as tinea or dermatophytosis, is a widespread fungal infection that affects the skin, nails, and scalp. Its name derives from the characteristic circular rash it forms, although the condition is caused by fungi rather than worms (Reddy 2017). This infection can manifest in various forms depending on the body area affected, including athlete's foot (tinea pedis), jock itch (tinea cruris), scalp ringworm (tinea capitis), and body ringworm (tinea corporis). Despite its prevalence, misconceptions about its causes and treatment persist. Ringworm spreads through direct contact with infected individuals, animals, or contaminated surfaces, thriving in warm and moist environments (Pendones-Ulerio et al., 2023). Effective management involves antifungal treatments tailored to the infection's severity and location, alongside preventive measures such as maintaining hygiene and avoiding shared items. This review aims to provide a comprehensive understanding of ringworm's variations, debunk common myths, identify risk factors, and outline evidence-based treatment strategies to enhance public awareness and clinical outcomes (Yee & Al Aboud., 2023).

2. COMMON MYTHS REGARDING RINGWORM

Despite the fact that ringworm is quite common, there are a lot of misunderstandings about it that might make it more difficult to implement effective preventative and treatment measures. One of the most widespread misconceptions is that ringworm is brought on by worms, which is not the case. Ringworm is actually a fungal infection brought on by dermatophytes, which is a fungal infection (<https://www.webmd.com/skin-problems-and-treatments/ringworm-myths-facts>). Another common misconception is that ringworm is a disease that only affects children, despite the fact that it can infect people of any age and even animals. In contrast to the widespread notion, ringworm does not always result in the formation of the typical red rings. Instead, the symptoms of ringworm vary depending on the location of the infection, such as scaly patches or flaky skin (<https://consensus.app/home/blog/myths-facts-about-ringworm/>). Furthermore, ringworm is very contagious and can be transmitted through direct contact with diseased humans, animals, or surfaces that have been polluted. Moreover, there are misconceptions regarding therapy, with some individuals erroneously believing that antibiotics are useful against ringworm while, in fact, antifungal drugs are required. It is essential to dispel these misunderstandings in order to achieve a better understanding of this widespread fungal illness and to improve its management (<https://skinandhairacademy.in/article/ringworm-common-myths-facts/>).

3. CAUSES OF RINGWORM

Ringworm, or dermatophytosis, is a common fungal infection caused by dermatophytes such as Trichophyton, Microsporum, and Epidermophyton (Cottle 1880; Degreaf 2008). The infection spreads through (Figure 1)-

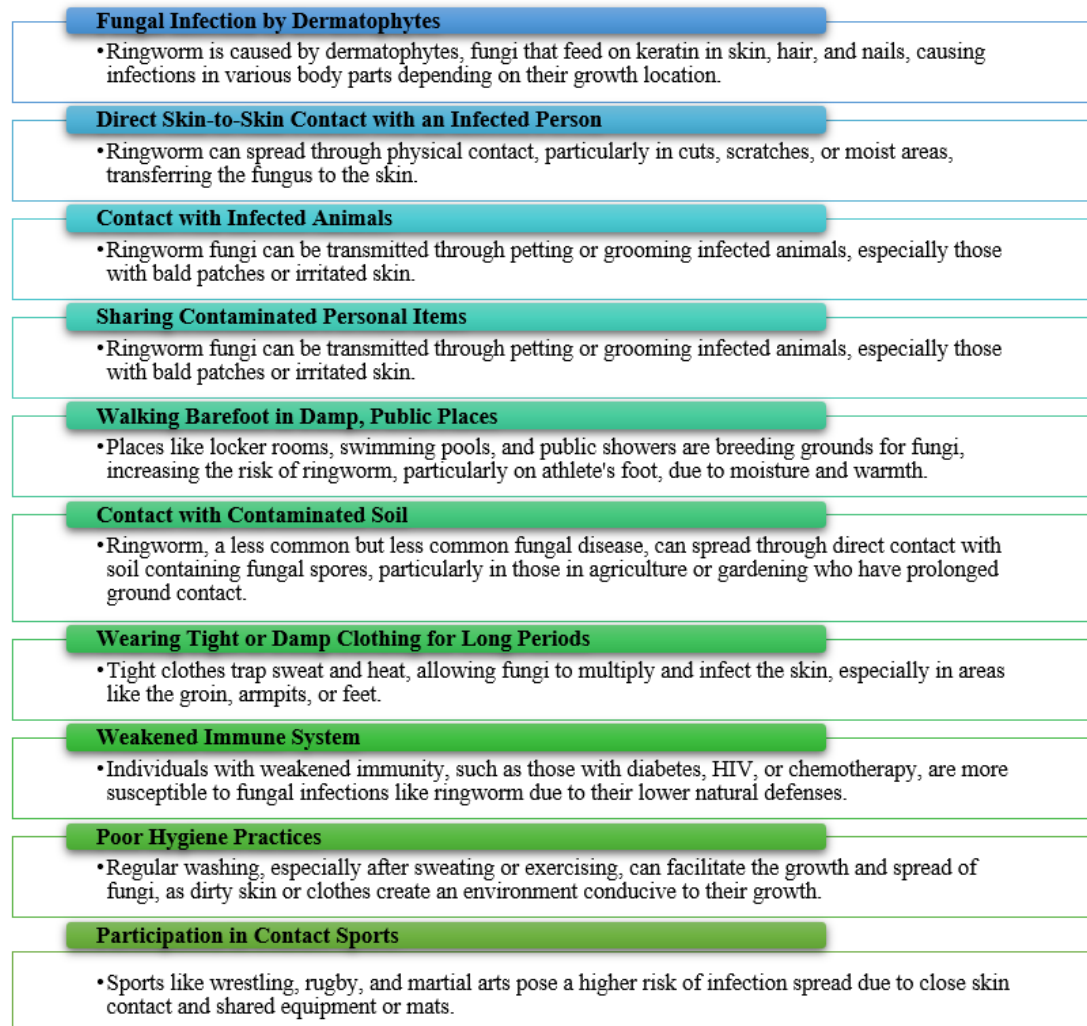


Figure 1. Causes of Ringworm

4. FUNGAL PATHOGENS INVOLVED

4.1 Trichophyton rubrum- It is the most common cause of ringworm and can affect the nails, skin, and hair. Affected nails often show yellow discoloration along their length, thickening, and becoming brittle. Trichophyton rubrum has adapted to this environment, and it can grow slowly but steadily. Deeper skin infections allow access to tissue that is richer in nutrients, but they also present the pathogen with recognition and challenge from the host immune system (Blechert et al., 2023).

4.2 Microsporum canis- It mostly affects the scalp and skin and frequently spreads from animals to people. Although it frequently targets people, Microsporum canis is typically thought of as a zoophilic dermatophyte. Microsporum canis is linked to tiny ectothrix spores and causes a yellow-greenish glow in hair. Its colonies have a distinctive yellow to orange-brown backside and range in hue from white to buff. Microaleuriopores are not common; they are small, clavate to elongate, and have only one cell. On the other hand, macroaleuriopores are common; they are spindle-shaped, have thick walls, and have 6–15 cells (Carter, 1990).

4.3 Trichophyton mentagrophytes- This fungus is commonly linked to animal reservoirs and can infect both skin and hair. The dermatophyte that is most frequently isolated from fur-bearing animals and diseased chinchillas is Trichophyton mentagrophytes. Chinchilla dermatophytosis causes tiny, scaly alopecia patches on the nose, eyes, anus, behind the ears, or forefoot. Any portion of the body may develop lesions, and in more severe cases, a sizable, encircled area of inflammation with scab formation results (Gräser et al., 1999).

4.4 Epidermophyton floccosum- Mostly affects the nails and skin, resulting in disorders like jock itch and athlete's foot. Epidermophyton floccosum is one of the most common types of superficial fungal infections in humans. Its ecology is different from those of the genera Trichophyton and Microsporum, and it only rarely causes infections of the hair. Known as anthropophilic dermatophytes, Epidermophyton floccosum is now the sole species that exemplifies the genus Epidermophyton (Liu et al., 2021).

These fungi can spread by direct contact or contaminated surfaces, and they do thrive in warm, humid settings. Drugs with antifungal properties are usually used in treatment (Figure 2).



Figure 2. Fungal pathogen involved in ringworm

5. SYMPTOMS OF RINGWORM

Depending on the part of the body afflicted, ringworm symptoms might vary but typically include-

(5.1) **Red, Circular Rash-** A red, raised, and frequently scaly region that can look like a ring when it spreads outward.

(5.2) **Itching and Irritation-** In general, affected areas itch and may feel painful.

(5.3) **Bald Patches-** Hair loss in patches may occur in circumstances where the scalp is affected.

(5.4) **Dry, Flaky Skin-** Dryness and flakiness of the skin may occur in the afflicted area.

(5.5) **Blisters or Pustules-** Around the rash's margins, little blisters or pustules can sometimes form.

(5.6) **Nail Changes-** Nails infected by ringworm may thicken, break, or turn discolored

(<https://www.aad.org/public/diseases/a-z/ringworm-symptoms>).

6. RINGWORM VARIATIONS BY BODY AREA

Ringworm, or dermatophytosis, manifests differently depending on the area of the body it affects. On the body (tinea corporis), it typically appears as itchy, circular patches with raised, scaly borders and clear centers, often on the arms, legs, or torso (<https://www.healthline.com/health/ringworm>) (<https://www.mayoclinic.org/diseases/conditions/ringworm-body/symptoms-causes/syc-20353780>). The scalp (tinea capitis) is commonly affected in children, causing itchy, scaly bald spots where hair may break or fall out (<https://www.healthline.com/health/ringworm>). In the groin area (tinea cruris or jock itch), ringworm presents as an itchy, scaly rash on the inner thighs and buttocks, more prevalent in males and adolescent boys (<https://www.webmd.com/skin-problems-and-treatments/what-you-should-know-about-ringworm>). Athlete's foot (tinea pedis) affects the feet, causing peeling, itching, and sometimes blistering between the toes. Beard ringworm (tinea barbae) results in itchy, scaly spots on the cheeks, chin, and upper neck, potentially leading to hair loss. Hand ringworm (tinea manuum) is characterized by dry, cracked skin on the palms and ring-shaped patches on the back of the hands. Lastly, nail ringworm (tinea unguium or onychomycosis) causes thickening and discoloration of the nails, more commonly affecting toenails (<https://www.webmd.com/skin-problems-and-treatments/what-you-should-know-about-ringworm>) (<https://www.everydayhealth.com/ringworm/guide/>) (Figure 3).



Figure 3. Body Area-specific Ringworm Variations

7. DIAGNOSIS OF RINGWORM

7.1 Clinical Examination- Clinical testing for ringworm is a systematic assessment to ascertain the characteristics of the illness and confirm the diagnosis. During the examination, the following typically transpires: Visual Inspection, Symptom Assessment, Site-specific Examination, Palpation, Evaluation of Adjacent Areas, and Documentation. This thorough assessment facilitates an accurate diagnosis, guiding appropriate therapy and management of ringworm.

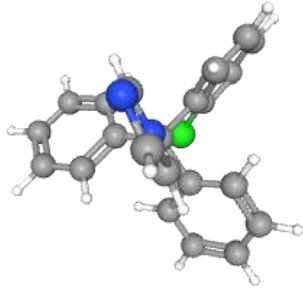
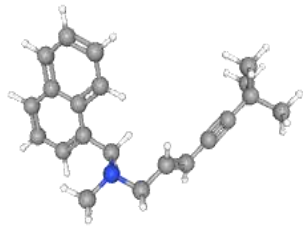
7.2 Laboratory Tests- Laboratory testing is essential for determining the existence of a fungal illness, such as ringworm. The following tests are commonly utilized: Laboratory Assessments - Fungal Culture, Wood's Lamp Examination, Skin Biopsy, PCR (Polymerase Chain Reaction) Testing. These laboratory tests confirm the diagnosis of ringworm and differentiate it from other dermatological conditions, ensuring the appropriate treatment is delivered.

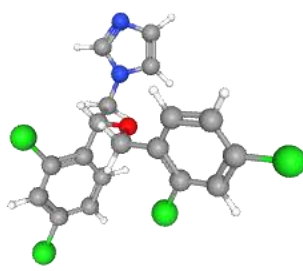
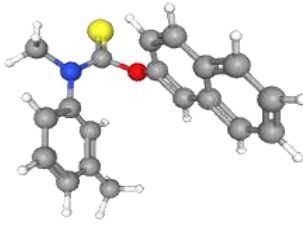
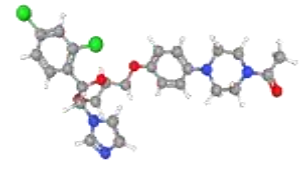
7.3 Differential Diagnosis- Tinea corporis may resemble other disorders included in the differential diagnosis. Typically, these also have annular lesions. Further investigation is warranted in instances that do not respond to antifungal treatment or have a negative potassium hydroxide microscopic examination. In cases of severe disease, particularly with extensive skin involvement, the clinician must exclude other, more perilous conditions (Yee & Al Aboud 2022). Differential diagnosis is essential to distinguish ringworm from other skin conditions that may present with analogous symptoms (Ely & Rosenfeld et al., 2014). Key factors to consider are as follows: Eczema (Atopic Dermatitis), Psoriasis, Contact Dermatitis, Pityriasis Rosea, Nummular Eczema, Seborrheic Dermatitis, Folliculitis, Tinea Versicolor, Bacterial Infections.

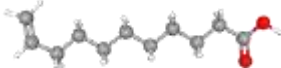
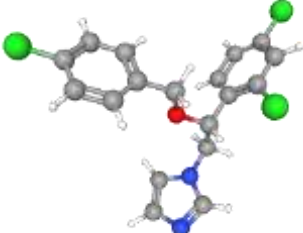
8. TREATMENT OPTIONS

Over-the-Counter antifungal treatments, including creams, ointments, sprays, powders, and gels, are commonly used to treat fungal skin infections like athlete's foot, ringworm, jock itch, and yeast (Chen et al., 2021).

Table 1. Pharmacological Intervention for Tinea

| S.No . | Medication | Brand name | PubChem CID | Formula | Structure | Use |
|--------|--------------|----------------------|-------------|--|--|---|
| 1 | Clotrimazole | Lotrimin AF, Mycelex | 2812 | C ₂₂ H ₁₇ ClN ₂ |  | Clotrimazole is effective against a variety of fungal infections, including athlete's foot, ringworm, and jock itch. It works by inhibiting the growth of the fungus (Evans, 1994). |
| 2 | Terbinafine | Lamisil AT | 1549008 | C ₂₁ H ₂₅ N |  | Terbinafine is another popular treatment for fungal infections. It works by disrupting the cell membrane of the fungus, leading to its |

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| | | | | | | death. It is often used for athlete's foot, ringworm, and jock itch (Evans, 1994). |
| 3 | Miconazole | Monistat, Micatin, Lotrimin AF | 4189 | $C_{18}H_{14}Cl_4N_2O$ |  | Miconazole is a broad-spectrum antifungal that is effective for skin infections such as ringworm, athlete's foot, and jock itch, as well as vaginal yeast infections (Firooz et al., 2016). |
| 4 | Tolnaftate | Tinactin | 5510 | $C_{19}H_{17}NOS$ |  | Tolnaftate is commonly used to treat athlete's foot, jock itch, and ringworm. It works by inhibiting the growth of the fungi that cause these conditions (Gire et al., 2018). |
| 5 | Ketoconazole | Nizoral | 456201 | $C_{26}H_{28}Cl_2N_4O$ 4 |  | Ketoconazole is used for treating skin and scalp fungal infections, including athlete's foot, ringworm, and dandruff caused by Malassezia fungi. It |

| | | | | | | |
|---|------------------|----------------------|------|------------------------|--|--|
| | | | | | | works by interfering with the fungal cell membrane (Van Cutsem, 1983). |
| 6 | Undecylenic Acid | Fungi-Nail, Mycocide | 5634 | $C_{11}H_{20}O_2$ |  | Undecylenic acid is effective in treating fungal infections of the skin, especially on the nails and feet. It is often used for athlete's foot and toenail fungus (Shapiro, 1983). |
| 7 | Econazole | Ecoza, Spectazole | 3198 | $C_{18}H_{15}Cl_3N_2O$ |  | Apply to the affected area once daily for up to 2-4 weeks (Tatara et al., 2018). |

9. PRESCRIPTION MEDICATIONS

Prescription medications, such as topical or oral antifungal treatments for ringworm, may be necessary for severe or persistent infections, depending on the severity and location of the infection.

9.1 Topical Prescription Antifungal Medications

Healthcare providers may prescribe stronger topical antifungal medication for severe or resistant cases of ringworm, applied directly to the affected skin.

9.1.1 Terbinafine 1% (Lamisil)—Terbinafine is a highly effective topical antifungal that inhibits fungal cell membrane synthesis, leading to the death of the fungus. Apply once or twice daily to the affected area. Treatment typically lasts for 1-2 weeks, but it may be longer depending on the infection's severity (Evans, 1994).

9.1.2 Clotrimazole 1% (Lotrimin, Mycelex)—Clotrimazole is a broad-spectrum antifungal that works by inhibiting fungal growth. Apply twice daily for 2-4 weeks until the infection clears up (Evans, 1994).

9.1.3 Ketoconazole 2% (Nizoral)—Ketoconazole is another potent antifungal, especially useful for treating dermatophyte infections like ringworm. It disrupts fungal cell membranes. Usually applied once or twice a day for 2-4 weeks (Van Cutsem, 1983).

9.1.4 Miconazole 2% (Monistat, Micatin)—Miconazole works by interfering with the synthesis of fungal cell membranes. Applied twice daily to the affected area for 2-4 weeks (Firooz et al., 2016).

9.1.5 Econazole 1% (Spectazole)—Econazole is effective against dermatophytes and yeasts. Apply to the affected area once daily for up to 2-4 weeks (Tatara et al., 2018).

10. ORAL ANTIFUNGAL MEDICATIONS

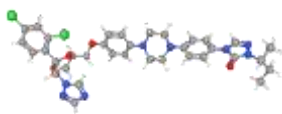
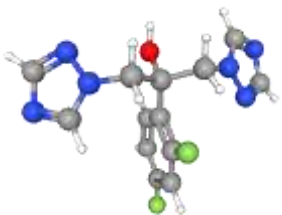
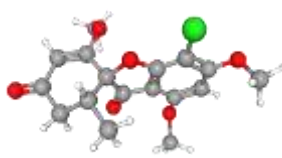
10.1 Terbinafine (Lamisil)—Terbinafine is a first-line treatment for dermatophyte infections, including ringworm. It works by inhibiting the enzyme that fungi use to create their cell membranes, which results in the death of the fungus. More than 80% of patients often get a mycological cure while taking oral Terbinafine 250 mg daily for superficial dermatophyte infections such as onychomycosis, tinea pedis, and tinea corporis/cruris. In individuals with dermatophyte onychomycosis, oral terbinafine has a better cost-effectiveness ratio than continuous itraconazole, ketoconazole, and griseofulvin. Additionally, it is less expensive for patients with severe dermatophyte skin infections than oral ketoconazole or griseofulvin (McClellan et al., 1999) (Table 2).

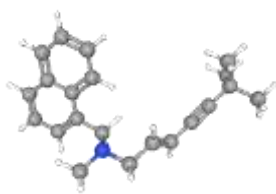
10.2 Itraconazole (Sporanox) - Itraconazole is a broad-spectrum antifungal that works by inhibiting fungal cell membrane synthesis. In both human and veterinary medicine, Itraconazole (ITZ) has been used extensively for the treatment and prevention of fungal infections because of its broad spectrum and safety profile in comparison to other antifungals (Sousa et al., 2024) (Table 2).

10.3 Fluconazole (Diflucan) - Fluconazole is another oral antifungal that is effective for treating dermatophyte infections, although it's more commonly used for yeast infections. It is beneficial to prescribe fluconazole for onychomycosis since it is easy to administer once a week, has superior absorption compared to other medications, and is safe for use in individuals with heart failure and other comorbidities (Gupta et al., 2001) (Table 2).

10.4 Griseofulvin (Gris-PEG) - Griseofulvin is a well-established treatment for fungal infections, particularly when topical treatments are ineffective. It works by interfering with fungal cell division. Clinical use of griseofulvin is safe, with comparatively mild adverse effects including headache, nausea, vomiting, and sleeplessness. Rare but more serious adverse events include hepatotoxicity, photosensitivity, and Stevens-Johnson syndrome. The US Food and Drug Administration has approved its use in children over the age of 2 and it is available in tablet or oral suspension form (Yesudian et al., 2021) (Table 2).

Table 2. Oral Antifungal Medications

| S.No | Medication | Brand Name | Pubchem CID | Molecular formula | Structure | Common side effects |
|------|--------------|------------|-------------|--------------------------|--|---|
| 1 | Itraconazole | Sporanox | 55283 | $C_{35}H_{38}Cl_2N_8O_4$ |  | Nausea, headache, liver toxicity (rare but serious), and gastrointestinal issues. (Sousa et.al., 2024) |
| 2 | Fluconazole | Diflucan | 3365 | $C_{13}H_{12}F_2N_6O$ |  | Gastrointestinal disturbances, headache, and liver function changes (Gupta et al., 2001). |
| 3 | Griseofulvin | Gris-PEG | 441140 | $C_{17}H_{17}ClO_6$ |  | Headache, gastrointestinal upset, and photosensitivity (increased sensitivity to sunlight). (Yesudian et al., 2021) |

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| 4 | Terbinafine | Lamisil | 1549008 | C ₂₁ H ₂₅ N |  | Gastrointestinal issues (e.g., nausea, diarrhea), liver function changes (rare but serious), and skin rashes. (McClellan et al., 1999) |
|---|-------------|---------|---------|-----------------------------------|--|--|

11. HOME REMEDIES AND THEIR EFFICACY

Ringworm treatment often involves over-the-counter and prescription treatments, but some individuals prefer home remedies for cost or natural preferences. Common home remedies include OTC, prescription, and natural methods, with varying effectiveness (Table 3).

11.1 Tea Tree Oil- Tea tree oil (*Melaleuca alternifolia*) is a widely popular home remedy for fungal infections, including ringworm, due to its antifungal and antiseptic properties. Several studies have shown that tea tree oil has antifungal properties, which can help treat various types of fungi, including dermatophytes like the ones that cause ringworm. The antifungal properties of tea tree oil may help explain at least some of the ways that tea tree oil ointment treats dandruff, a mild form of seborrheic dermatitis, and fungal infections of the skin and mucous membranes (Nenoff et al., 1996).

11.2 Apple Cider Vinegar- Apple cider vinegar (ACV) is believed to have antifungal properties due to its acidity, which can help alter the pH of the skin and inhibit fungal growth. Since the skin's acidity serves as a crucial antimicrobial barrier, infectious microorganisms can spread when alkaline products frequently undermine this resistance. This could lead to bacterial infections like *Propionibacterium acnes*, which cause acne, and *Staphylococcus aureus*, which causes or contributes to eczema, or fungal diseases like athlete's foot, ringworm, and yeast infections (Clark et al., 2019).

11.3 Coconut Oil- Coconut oil contains caprylic acid, a fatty acid that has antifungal and antimicrobial properties. It is often cited as a natural remedy for treating fungal skin infections. Coconut oil is widely used to cure many hair and scalp issues, including grey hair. Ringworm infections can be effectively treated with coconut oil's therapeutic qualities. This is a basic ingredient that you probably already have in your house. The oil makes the region silky and smooth while offering excellent relief from itchy skin. Ringworm on the scalp can also be effectively treated with coconut oil (Antony et al., 2017).

11.4 Garlic- Garlic contains allicin, which has been shown to have antifungal, antibacterial, and antiviral properties. *Allium sativum*, often known as garlic, belongs to the Alliaceae family. Garlic has antifungal properties. Allicin, an important ingredient in garlic, is sulfur-containing and inhibits the growth of fungus and germs. The majority of garlic's biological qualities, such as its bactericidal, antifungal, and antiviral effects, are attributed to its main component, allicin. All of the garlic extracts at greater concentrations showed that the antifungal effect increases with increasing concentration (Nagansurkar et al., 2023).

11.5 Aloe Vera- Aloe vera is known for its soothing properties and contains antimicrobial compounds that may help reduce inflammation and irritation caused by fungal infections. Two items with distinct medicinal uses are derived from the aloe plant. Aloe juice or latex is used as a strong laxative, mainly in its dried form. Aloe gel's ability to heal wounds and function as a general tonic makes it useful both inside and externally. Even if the animal licks it sometimes, aloe vera gel's strong antifungal therapeutic activity can effectively treat ringworm without causing any negative side effects. Thus, more studies on those uses will offer more proof of the inner gel made from aloe vera leaves' therapeutic potential (Hassan et al., 2004).






11.6 Turmeric- Turmeric contains curcumin, which has antifungal, anti-inflammatory, and antioxidant properties. All of the garlic extracts at greater concentrations showed that the antifungal effect increases with increasing concentration. The Zingiberaceae family includes turmeric, or *Curcuma longa* L., which is widely used to treat ringworm, tinea, rash, and itching. Turmeric's primary bioactive ingredient, curcumin, has a wide range of pharmacological characteristics. Antibacterial, antiviral, renoprotective, cardioprotective, antioxidant, anticancer, anti-osteoarthritis, antidiarrheal, and neuroprotective qualities are among their many attributes (Nagansurkar et al., 2023).




11.7 Oregano Oil- Oregano oil contains carvacrol and thymol, both of which have strong antifungal and antibacterial properties. Because of its antifungal qualities, oregano essential oil is one of the most researched essential oils. It can

stop the growth of a variety of fungi, including *Aspergillus* species, *Fusarium* species, and *Penicillium* species. The primary constituents of oregano essential oil are terpinene, cymene, thymol, and carvacrol (Bedoya-Serna et al., 2018).

11.8 Lemongrass Oil- Lemongrass oil has been shown to have antifungal properties against certain fungi, including dermatophytes. A member of the grass family, lemongrass (*Cymbopogon citratus* L.) has a dry essential oil content of 1% to 2%. The chemical makeup of this plant varies greatly depending on the genetic diversity, habitat, and agronomic practices of the culture. There is a lot of interest in using lemongrass oil to preserve food crops that have been stored because it demonstrated a wide range of fungi toxicity by completely inhibiting the growth of 35, 45, and 47 fungal species at 500, 1000, and 1500 ppm, respectively. Its fungi toxic potency remained unchanged for 210 days of storage before beginning to decline (Tzortzakakis et al., 2007).

Table 3. Home Remedies and Their Effectiveness

| S.No | Natural products | Use | Caution |
|------|--|--|--|
| 1 | Tea Tree Oil  | <ul style="list-style-type: none"> Dilute tea tree oil with a carrier oil (like coconut or olive oil) to avoid skin irritation (usually 1-part tea tree oil to 3 parts carrier oil). Apply to the affected area 2-3 times a day using a clean cotton ball. | Tea tree oil can cause irritation or allergic reactions in some people, so always do a patch test on a small area first (Nenoff et al., 1996). |
| 2 | Apple cider vinegar  | <ul style="list-style-type: none"> Dilute ACV with water (1:1 ratio) and apply it to the affected area using a cotton ball or clean cloth. Let it sit for 15-20 minutes before rinsing it off. Apply up to 3 times a day. | ACV can be irritating to sensitive skin, so start with a diluted solution and discontinue use if irritation occurs (Clark et al., 2019). |
| 3 | Coconut Oil  | Apply a thin layer of virgin coconut oil directly to the affected area 2-3 times a day. | Coconut oil is generally well-tolerated, but discontinue use if any irritation or breakouts occur (Antony et al., 2017). |
| 4 | Garlic  | <ul style="list-style-type: none"> Crush a few fresh garlic cloves to release the allicin and apply the paste to the affected area for 15-20 minutes, then wash it off. Alternatively, garlic oil can be applied to the skin (diluted if necessary) 2-3 times a day. | Garlic can cause skin irritation, especially when applied in concentrated amounts. It may also cause a burning sensation (Nagansurkar et al., 2023). |
| 5 | Aloe vera  | <ul style="list-style-type: none"> Apply fresh aloe vera gel directly from the plant to the affected area and leave it on for 20-30 minutes. Repeat 2-3 times a day. | Aloe vera is generally safe, but check for any allergic reactions, especially if you have sensitive skin (Fatima et al.2022). |

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| 6 | <p>Turmeric</p>  | <p>Make a paste using turmeric powder and water (or coconut oil) and apply it to the affected area.</p> <p>Leave it on for about 15-20 minutes before rinsing off.</p> | <p>Turmeric can stain the skin and clothing. It may also cause irritation in some people, so test on a small area first (Nagansurkar et al., 2023).</p> |
| 7 | <p>Oregano Oil</p>  | <p>Dilute oregano oil with a carrier oil (such as olive oil or coconut oil) in a 1:3 ratio.</p> <p>Apply to the affected area once or twice a day.</p> | <p>Oregano oil is potent and can cause skin irritation. Always dilute it before applying, and perform a patch test first (Hebah et al., 2022).</p> |
| 8 | <p>Lemongrass Oil</p>  | <p>Dilute lemongrass oil with carrier oil (like coconut oil or olive oil).</p> <p>Apply the diluted oil to the affected area 2-3 times a day.</p> | <p>Lemongrass oil can be irritating, especially if not diluted properly. Always perform a patch test first (Tzortzakakis et al., 2007).</p> |

Essential Factors When Utilizing Home Remedies: Length of Application, Regularity, Dermal Sensitivity Assessment, Timing for Medical Consultation. Although home remedies such as tea tree oil, garlic, and coconut oil may alleviate minor ringworm cases, it is imperative to underscore that medical intervention is necessary for chronic infections.

Prevention Strategies

To avert ringworm, uphold hygiene, minimize exposure to fungi, and tend to the skin. Wash regularly, dry moist areas, refrain from sharing personal belongings, utilize protective footwear, don loose clothing, and apply antifungal powders to perspiring regions. Refrain from exchanging personal belongings and opt for breathable attire. To avert ringworm infection, promptly address afflicted pets, cover lesions, refrain from scratching, and manage any underlying health issues (HILL et al., 1928). Regularly launder garments and linens, and disinfect frequently-touched surfaces to decrease the risk of illness transmission. Upholding adequate cleanliness is crucial for preventing ringworm. Daily changes of socks and underwear, coupled with consistent bathing or showering, will inhibit the development of fungus that flourishes in wet environments such as the feet and groin. Avoid constrictive underwear and pantyhose. To prevent the transfer of fungus from your feet to your groin, don your socks before to your underwear. Topical agents include miconazole, terbinafine, ketoconazole, clotrimazole, and tolnaftate may be administered for two to three weeks to address an active ringworm infection. Oral medications are occasionally employed to address scalp fungal infections (Lewis et al., 1944).

When to Seek Medical Advice for Ringworm Infections

Consult a medical professional for ringworm infections if over-the-counter antifungal treatments have been applied consistently for two weeks without improvement, or if the infection seems to worsen, spreads rapidly, becomes swollen, painful, or begins to exude pus—signs that a secondary bacterial infection may be present. Medical intervention is particularly crucial if the infection is situated on the scalp or beard, as these regions generally necessitate oral antifungal drugs due to deeper involvement. Individuals with recurring ringworm infections should seek medical advice to exclude underlying disorders, such as immunocompromised states or repeated exposure to contaminated animals. If the infection gets severe, affects extensive sections of the body, or involves the nails, expert treatment is required, as topical treatments are frequently inadequate. Vulnerable populations, including newborns, the elderly and immunocompromised individuals, should be assessed by a physician, even in the presence of moderate symptoms. Finally, if there is any ambiguity regarding the nature of the rash as ringworm, obtaining an accurate diagnosis from a healthcare professional is crucial for ensuring suitable treatment (Figure 4).

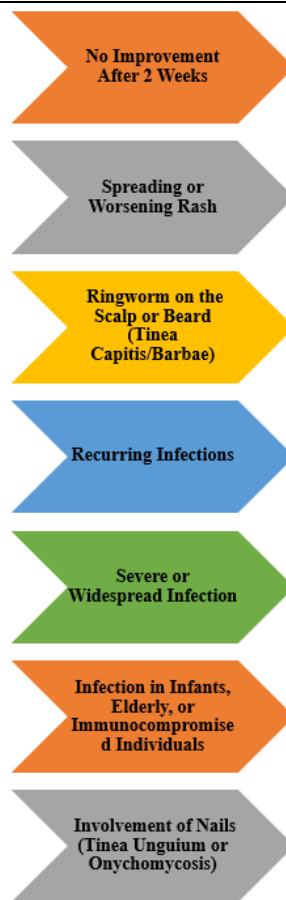


Fig 4. When to See a Doctor for Ringworm

Factors Contributing to Persistent or Severe Ringworm Infections:

Ringworm infections may endure due to inadequate treatment, compromised immune systems, and environmental factors such as elevated humidity and restrictive clothes. Individuals with diabetes, HIV/AIDS, or undergoing immunosuppressive medication exhibit heightened susceptibility. Untreated ringworms proliferate, expand, and intensify in agony. Healthcare practitioners may prescribe more potent antifungal drugs and evaluate underlying health issues. Effective hygiene procedures and the prevention of reinfection are essential for handling severe cases (Abdel-Wahab et al., 2022).

12. CONCLUSION

Ringworm is a prevalent yet extremely contagious fungal infection that is typically manageable with over-the-counter treatments; however, it may necessitate medical intervention if it becomes severe, chronic, or involves sensitive regions such as the scalp or nails. Identifying the appropriate moments to get medical consultation guarantees prompt and efficient care, while minimizing the likelihood of problems and transmission. Preventing ringworm is of similar significance. Maintaining proper personal hygiene, ensuring the skin remains dry and clean, refraining from sharing personal objects such as towels or razors, and addressing infections in pets can substantially mitigate the risk of infection. Timely and appropriate treatment not only alleviates symptoms rapidly but also inhibits the transmission of the virus to others. Maintaining awareness and vigilance is essential for the proper management and prevention of ringworm.

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