RINGWORM vs. NUMMULAR ECZEMA

Both eczema and ringworm can cause an itchy, red rash that appears in circular shapes. The rash may blister or be made up of tiny bumps. It can spread and may become dry and scaly. Doctors can mistake eczema for ringworm, and the treatments for each are very different. It is important to differentiate accurately before treating. The best way to determine whether it is Ringworm or Nummular Eczema it is to scrape the infected skin and have it examined for fungus.

RINGWORM

Ringworm is a common infection of the skin and nails that is caused by fungus. The infection is called “ringworm” because it can cause an itchy, red, circular rash. Anyone can get ringworm. The fungi that cause this infection can live on skin, surfaces, and on household items such as clothing, towels, and bedding. Ringworm is also called “tinea” or “dermatophytosis.” The different types of ringworm are usually named for the location of the infection on the body. Approximately 40 different species of fungi can cause ringworm; the scientific names for the types of fungi that cause ringworm are Trichophyton, Microsporum, and Epidermophyton.

Symptoms typically appear between 4 and 14 days after the skin comes in contact with the fungi that cause ringworm. Ringworm can affect skin on almost any part of the body as well as fingernails and toenails. The symptoms of ringworm often depend on which part of the body is infected, but they generally include:

- Itchy skin
- Ring-shaped rash
- Red, scaly, cracked skin
- Hair loss

Symptoms of ringworm by location on the body:

- **Feet (tinea pedis or “athlete’s foot”)**: The symptoms of ringworm on the feet include red, swollen, peeling, itchy skin between the toes (especially between the pinky toe and the one next to it). The sole and heel of the foot may also be affected. In severe cases, the skin on the feet can blister.
- **Scalp (tinea capitis)**: Ringworm on the scalp usually looks like a scaly, itchy, red, circular bald spot. The bald spot can grow in size and multiple spots might develop if the infection spreads. Ringworm on the scalp is more common in children than it is in adults.
- **Groin (tinea cruris or “jock itch”)**: Ringworm on the groin looks like scaly, itchy, red spots, usually on the inner sides of the skin folds of the thigh.
- **Beard (tinea barbae)**: Symptoms of ringworm on the beard include scaly, itchy, red spots on the cheeks, chin, and upper neck. The spots might become crusted over or filled with pus, and the affected hair might fall out.
According to CDC, 2015 ringworm is very common and anyone can get it, especially people who have weakened immune systems may be especially at risk for infection and may have problems fighting off a ringworm infection. People who use public showers or locker rooms, athletes (particularly those who are involved in contact sports such as wrestling) people who wear tight shoes and have excessive sweating, and people who have close contact with animals may also be more likely to come in contact with the fungi that cause ringworm.

Source: The fungi that cause ringworm can live on skin and in the environment. Three main ways that ringworm can spread:

1. From a person who has ringworm.
   People can get ringworm after contact with someone who has the infection. To avoid spreading the infection, people with ringworm shouldn’t share clothing, towels, combs, or other personal items with other people.

2. From an animal that has ringworm.
   People can get ringworm after touching an animal that has ringworm. Many different kinds of animals can spread ringworm to people, including dogs and cats, especially kittens and puppies. Other animals, like cows, goats, pigs, and horses can also spread ringworm to people.

3. From the environment.
   The fungi that cause ringworm can live on surfaces, particularly in damp areas like locker rooms and public showers. For that reason, it’s a good idea not to walk barefoot in these places.

Diagnosis: A thorough history and physical examination is often sufficient to diagnose tinea. The classic lesion is an erythematous, raised, scaly ring with central clearing. Multiple lesions may be present. The severity of the infection can range from mild, scaly lesions, to erythematous, exudative lesions characteristic of superimposed bacterial infections.

Potassium hydroxide (KOH) stain a commonly-used method for diagnosing tinea because it is inexpensive, easy to perform, and has high sensitivity. Scrapings from the lesion(s) are placed in a drop of KOH and examined under a microscope for the presence of fungal hyphae.

Fungal culture can be performed as a confirmatory test if results from a KOH stain are inconclusive. Hair and/or scrapings extracted from affected areas are placed on Sabouraud's medium. Fungal culture is more specific than KOH stain, but it can take up to three weeks to become positive.
**Treatment:** The treatment for ringworm depends on its location on the body and how serious the infection is. Some forms of ringworm can be treated with over-the-counter medications, but other forms of ringworm need treatment with prescription antifungal medication.

- **Ringworm on the skin** like athlete’s foot (tinea pedis) and jock itch (tinea cruris) can usually be treated with non-prescription antifungal creams, lotions, or powders applied to the skin for 2 to 4 weeks. There are many non-prescription products available to treat ringworm, including:
  - Lotrimin, Mycelex
  - Miconazole
  - Lamisil
  - Xolegel
- **Ringworm on the scalp** (tinea capitis) Creams, lotions, or powders don’t work for ringworm on the scalp. usually needs to be treated with prescription antifungal medication taken by mouth for 1 to 3 months. Prescription antifungal medications used to treat ringworm on the scalp include:
  - Griseofulvin
  - Terbinafine
  - Itraconazole
  - Fluconazole

**Prevention:** Ringworm is difficult to prevent. The fungus that causes ringworm is common and contagious even before symptoms appear. Ringworm can typically live up to 7 days on surfaces such as counter tops, carpets, and floors, but it has been reported that some types can live up to one year. However, you can help reduce your risk of ringworm by taking these steps:

- **Education:** Be aware of the risk of ringworm from infected people or pets.
- **Keep clean.** Wash your hands often to avoid the spread of infection. Keep common or shared areas clean, especially in tub/shower rooms, gyms and clean toys between uses.
- **Stay cool and dry.** Don’t wear thick clothing for long periods of time in warm, humid weather. Avoid excessive sweating.
- **Avoid infected animals.** The infection often looks like a patch of skin where fur is missing. In some cases, though, you may not notice any signs of the disease. Ask your veterinarian to check your pets and domesticated animals for ringworm.
- **Don't share personal items.** Don’t let others use your clothing, towels, hairbrushes or other personal items. Refrain from borrowing these items from others as well.

The spores of this fungus can be killed with common disinfectants like diluted chlorine bleach (1/4 c per gallon water), benzalkonium chloride, or strong detergents.

**Nummular Eczema**

Nummular eczema (also known as discoid eczema and nummular dermatitis) is a common type of eczema that can occur at any age. It is notable because it looks very different than the usual atopic dermatitis and can be much more difficult to treat. This type of eczema will look coin-shaped on the skin. They tend to be well-defined, but may or may not be very itchy. They can be very dry and scaly or can become wet and open.

The cause of nummular eczema is unknown, but it tends to be more isolated than atopic dermatitis and does not seem to run in families. Sometimes there is a triggering event such as:
- An insect bite
- A reaction to inflammation (including atopic dermatitis) elsewhere on the body
- Dry skin in the winter
  Because it can look like ringworm (tinea corporis), it is important to make sure that it is not a fungal infection, especially if it is not responding to treatment. This can usually be done with a scraping or a fungal culture.

**Treatment:** Like atopic dermatitis, nummular eczema can also become infected by bacteria—usually staphylococcus—and should be treated as well if present. It benefits from moisturizers to calm and protect the damaged skin barrier. The Doctor may prescribe a corticosteroid medication to calm the inflammation as well. It may require a moderate-potency corticosteroid creams as a milder one may not be enough. Unlike the chronic nature of atopic dermatitis, nummular eczema tends to disappear completely after adequate treatment. There are some case where corticosteroids cannot be used or have been used for a prolonged period, the doctor may prescribe a non-corticosteroid topical medication such as Protopic or Elidel. These products are topical calcineurin inhibitors. They are approved for use by adults and children two years of age or older, and they avoid many of the side effects of corticosteroids. If there is evidence of a bacterial infection topical or oral antibiotics may be used. Oral antihistamines may also be helpful for some, and may reduce some of the itch, especially at night. In severe cases, systemic steroids may be used for a short time.

This image displays a round, scaly area that has been eroded by scratching, typical of nummular dermatitis


**References:**

