

# STAY IN THE RING

## PIN RINGWORM FAST

### Ringworm is caused by a fungus

Ringworm (*tinea corporis*) is a contagious skin infection caused by a fungus—not a worm—that develops anywhere on the body. Because of the ring-shaped lesion that appears on the skin, people assumed it was caused by a worm under the skin, and the name stuck.

Ringworm spreads through direct body contact with individuals or pets who are infected, as well as with items that have been in contact with individuals or pets who are infected. It thrives on moist, warm skin, which is why athletes involved in contact sports are most susceptible to infection.

### Ringworm can sideline wrestlers

In a survey of certified athletic trainers, ringworm accounted for 84% of skin infections contracted by high school wrestlers, and skin infections are associated with at least 15% of practice time-loss injuries in collegiate wrestling.<sup>1,2</sup> Avoiding contact with infected individuals and keeping skin clean and dry can prevent ringworm. Antifungal creams or gels can be used to treat ringworm.

### How to spot and stop ringworm

Ringworm appears on the face, limbs, or trunk of the body as an itchy, raised, red, circular patch with a scaly border. As the patch gets larger, the center heals and leaves a ring-like appearance. The circular patches can vary in size from quite small to very large.

Not all skin infections are ringworm, so it's important to see your doctor if you think you have an infection. A doctor can prescribe treatment in the form of a topical cream or gel or a systemic medication that you can take orally. Treatment can prevent spreading of the infection to other areas of the body and to other people.

### Tips to prevent ringworm

- Shower after playing sports
- Dry thoroughly after bathing or swimming
- Wash clothes after each workout
- Avoid contact with individuals who are infected
- Don't share towels or clothing with others
- Have infected pets treated

### Safety Information

In clinical trials with Naftin®, the most commonly reported side effects were burning/stinging, dryness, erythema, itching, local irritation, rash, and skin tenderness. You should not use Naftin® if you are allergic to any of its ingredients. Naftin® is for topical use only.

You are encouraged to report negative side effects of prescription drugs to the FDA. Visit [www.fda.gov/medwatch](http://www.fda.gov/medwatch), or call 1-800-FDA-1088.



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References: 1. Injury surveillance study. National Athletic Trainers' Association web site. Available at: <http://www.nata.org/consumer/injuryinfo.htm>. Accessed June 26, 2008. 2. NCAA sports medicine handbook. NCAA web site. Available at: [http://www.ncaa.org/library/sports\\_sciences/sports\\_med\\_handbook/2007-08/2007-08\\_sports\\_medicine\\_handbook.pdf](http://www.ncaa.org/library/sports_sciences/sports_med_handbook/2007-08/2007-08_sports_medicine_handbook.pdf). Accessed June 26, 2008.



### More fungal infections commonly contracted by athletes

**Athlete's foot (*tinea pedis*)** affects the bottom or sides of the feet and is often found between the toes. It is usually contracted in swimming pools, showers, or locker rooms and appears as a red rash with scaly patches and peeling skin, accompanied by itching and burning.

#### Prevention

- Avoid walking barefoot
- Use shower shoes
- Wear socks that keep the feet dry

**Jock itch (*tinea cruris*)** affects the groin and upper thigh area in men. You can get jock itch by coming in contact with clothing, bedding, and towels of people with the infection. It often appears as a rash with well-defined, raised edges and can cause severe itching and discomfort.

#### Prevention

- Shower after workouts
- Dry thoroughly after swimming or bathing
- Keep the groin area dry and perspiration free
- When getting dressed, put on socks before underwear

# LEARN MORE ABOUT TREATMENT

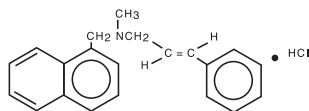
To learn more about Naftin®, a prescription-only treatment option for ringworm and other fungal infections, visit [www.naftin.com](http://www.naftin.com).



**Rx ONLY**

**DESCRIPTION:** Naftin® Cream, 1% and Naftin® Gel, 1% contain the synthetic, broad-spectrum, antifungal agent naftifine hydrochloride. Naftin® Cream and Gel, 1% are for topical use only.

**CHEMICAL NAME:** (E)-N-Cinnamyl-N-methyl-1-naphthalenemethylamine hydrochloride. Naftifine hydrochloride has an empirical formula of  $C_{21}H_{21}N \cdot HCl$  and a molecular weight of 323.86.

**Structural Formula:**


naftifine hydrochloride

**Contains:**
**Active Ingredient:**

Naftifine hydrochloride..... 1%.

**Inactive Ingredients:** Naftin® Cream, 1% contains benzyl alcohol, cetyl alcohol, cetyl esters wax, isopropyl myristate, polysorbate 60, purified water, sodium hydroxide, sorbitan monostearate, and stearyl alcohol. Hydrochloric acid may be added to adjust pH. Naftin® Gel, 1% contains polysorbate 80, carbomer 934P, diisopropanolamine, edetate disodium, alcohol (52%v/v), and purified water.

**CLINICAL PHARMACOLOGY:** Naftifine Hydrochloride is a synthetic allylamine derivative. The following *in vitro* data are available but their clinical significance is unknown. Naftifine hydrochloride has been shown to exhibit fungicidal activity *in vitro* against a broad spectrum of organisms, including *Trichophyton rubrum*, *Trichophyton mentagrophytes*, *Trichophyton tonsurans*, *Epidermophyton floccosum*, *Microsporum canis*, *Microsporum audouinii*, and *microsporum gypseum*, and fungistatic activity against *Candida* species, including *Candida albicans*. Naftin® Cream and Gel, 1% have only been shown to be clinically effective against the disease entities listed in the INDICATIONS AND USAGE section.

Although the exact mechanism of action against fungi is not known, naftifine hydrochloride appears to interfere with sterol biosynthesis by inhibiting the enzyme squalene 2, 3-epoxidase. This inhibition of enzyme activity results in decreased amounts of sterols, especially ergosterol, and a corresponding accumulation of squalene in the cells.

**Pharmacokinetics:** *In vitro* and *in vivo* bioavailability studies have demonstrated that naftifine penetrates the stratum corneum in sufficient concentration to inhibit the growth of dermatophytes.

Following a single topical application of 1% of naftifine cream to the skin of healthy subjects, systemic absorption of naftifine was approximately 6% of the applied dose. Following single topical applications of <sup>3</sup>H- labeled naftifine gel 1% to the skin of healthy subjects, up to 4.2% of the applied dose was absorbed. Naftifine and/or its metabolites are excreted via the urine and feces with a half-life of approximately two to three days.

**INDICATIONS AND USAGE:** Naftin® Cream, 1% is indicated for the topical treatment of tinea pedis, tinea cruris, and tinea corporis caused by the organisms *Trichophyton rubrum*, *Trichophyton mentagrophytes*, and *Epidermophyton floccosum*. Naftin® Gel, 1% is indicated for the topical treatment of tinea pedis, tinea cruris, and tinea corporis caused by the organisms *Trichophyton rubrum*, *Trichophyton mentagrophytes*, *Trichophyton tonsurans*, *Epidermophyton floccosum*.

\*Efficacy for this organism in this organ system was studied in fewer than 10 infections.

**CONTRAINDICATIONS:** Naftin® Cream and Gel, 1% are contraindicated in individuals who have shown hypersensitivity to any of their components.

**WARNINGS:** Naftin® Cream and Gel, 1% are for topical use only and not for ophthalmic use.

**PRECAUTIONS:**

General: Naftin® Cream and Gel, 1%, are for external use only. If irritation or sensitivity develops with the use of Naftin® Cream or Gel, 1%, treatment should be discontinued and appropriate therapy instituted. Diagnosis of the disease should be confirmed either by direct microscopic examination of a mounting of infected tissue in a solution of potassium hydroxide or by culture on an appropriate medium.

**Information for patients:** The patient should be told to:

1. Avoid the use of occlusive dressings or wrappings unless otherwise directed by the physician.
2. Keep Naftin® Cream and Gel, 1% away from the eyes, nose, mouth and other mucous membranes.

**Carcinogenesis, mutagenesis, impairment of fertility:** Long-term studies to evaluate the carcinogenic potential of Naftin® Cream and Gel, 1% have not been performed. *In vitro* and animal studies have not demonstrated any mutagenic effect or effect on fertility.

**Pregnancy: Teratogenic Effects: Pregnancy Category B:**

Reproduction studies have been performed in rats and rabbits (via oral administration) at doses 150 times or more than the topical human dose and have revealed no evidence of impaired fertility or harm to the fetus due to naftifine. There are, however, no adequate and well-controlled studies in pregnant women. Because animal reproduction studies are not always predictive of human response, this drug should be used during pregnancy only if clearly needed.

**Nursing mothers:** It is not known whether this drug is excreted in human milk. Because many drugs are excreted in human milk, caution should be exercised when Naftin® Cream or Gel, 1% are administered to a nursing woman.

**Pediatric use:** Safety and effectiveness in pediatric patients have not been established.

**ADVERSE REACTIONS:** During clinical trials with Naftin® Cream, 1%, the incidence of adverse reactions was as follows: burning/stinging (6%), dryness (3%), erythema (2%), itching (2%), local irritation (2%). During clinical trials with Naftin® Gel, 1%, the incidence of adverse reactions was as follows: burning /stinging (5.0%), itching (1.0%), erythema (0.5%), rash (0.5%), skin tenderness (0.5%).

**DOSAGE AND ADMINISTRATION:** A sufficient quantity of Naftin® Cream, 1% should be gently massaged into the affected and surrounding skin areas once a day. A sufficient quantity of Naftin® Gel, 1% should be gently massaged into the affected and surrounding skin areas twice a day, in the morning and evening. The hands should be washed after application. If no clinical improvement is seen after four weeks of treatment with Naftin® Cream or Gel, 1%, the patient should be re-evaluated.

**HOW SUPPLIED:**

Naftin® (naftifine hydrochloride) Cream, 1% is supplied in collapsible tubes in the following sizes:

- 15g – NDC 0259-4126-15
- 30g – NDC 0259-4126-30
- 60g – NDC 0259-4126-60
- 60g (4 x 15g) multi-pack – NDC 0259-4126-04
- 90g – NDC 0259-4126-90

Naftin® (naftifine hydrochloride) Gel, 1% is supplied in collapsible tubes in the following sizes:

- 20g – NDC 0259-4770-20
- 40g – NDC 0259-4770-40
- 60g – NDC 0259-4770-60
- 90g – NDC 0259-4770-90

**Note:** Store Naftin® Cream, 1% below 30°C (86°F). Store Naftin® Gel, 1% at room temperature.