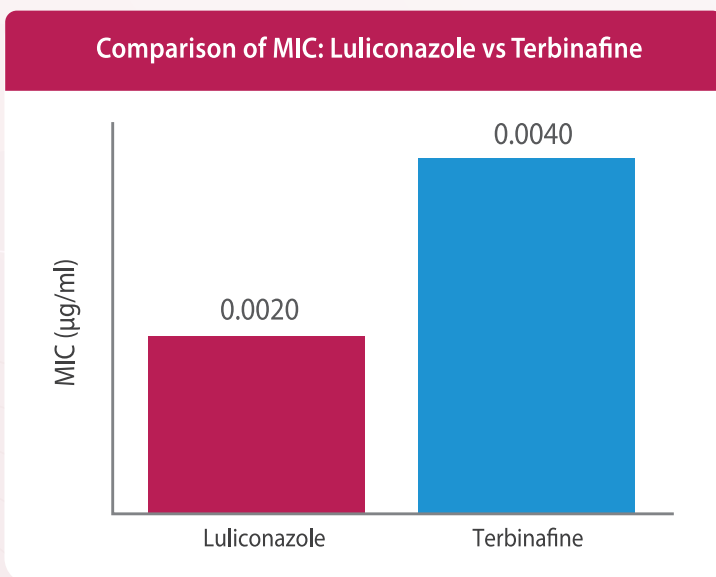


# Therapeutic efficacy of topically used luliconazole vs terbinafine 1% creams

- Dermatophytosis, caused by Trichophyton mentagrophytes, is a prevalent fungal infection in both humans and animals, often leading to persistent skin lesions.
- The rising resistance of dermatophytes to terbinafine, a commonly used antifungal, has made treatment increasingly difficult, especially in cases of resistant infections.
- Luliconazole, a newer imidazole-based antifungal, works by inhibiting ergosterol biosynthesis, offering a promising alternative for treating dermatophytosis, including cases resistant to traditional therapies like terbinafine.

| Study Design   |   | Randomized controlled trial                              |  |
|--|---|--|--|
| Population   | Duration                                      | Comparator   | Result   |
| 20 patients with dermatophytosis caused by T. mentagrophytes | <br>14-day treatment with follow-up to Day 42 | Luliconazole 1% cream vs Terbinafine 1% cream once daily | <ul style="list-style-type: none"> <li>• Luliconazole MIC 0.002 µg/ml vs Terbinafine 0.004 µg/ml</li> <li>• 72% vs 65% clearance at day 21</li> <li>• 100% eradication by day 28 for both, but faster decline with luliconazole</li> </ul> |



### Conclusion

- Luliconazole effectively eradicates dermatophytes with higher potency than terbinafine, as shown by its lower MIC values.
- Its long-lasting effect and rapid action make it ideal for treating recalcitrant dermatophytosis.
- Luliconazole provides a reliable solution, especially in cases resistant to traditional treatments like terbinafine.

Ref: Gnat S, Dyląg M, Łagowski D, Zielinski J. Therapeutic efficacy of topically used luliconazole vs. terbinafine 1% creams. Mycoses. 2021;1-9. doi:10.1111/myc.13289

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# Luliconazole: A Novel Imidazole for Superficial Fungal Infections



Intelligence applied. Benefits multiplied

## Drug Review

### An overview of dermatophytosis

- Fungal infections (superficial and invasive) are a major health problem and an important cause of morbidity. Superficial fungal infections affect as many as 20%–25% of the world's population and are associated with interference with daily activities, poor quality of life, and health care expenditure.
- Dermatophytosis usually remain localized to the superficial layers of the skin, hair, or nails. They are also commonly known as ringworms for its characteristic ring-shaped lesions.

### Challenges in the treatment of fungal infections

- Adequate treatment of cutaneous mycoses with current antifungals often requires long courses, but patients discontinue early once symptoms subside, leaving fungi behind and causing relapses. Short-course, fungicidal agents that ensure mycological clearance are therefore highly needed.
- The ideal topical antifungal should provide broad-spectrum fungicidal activity at low doses, convenient once-daily use, keratinophilic/lipophilic action, high cure rates with reservoir effect, minimal resistance or relapse, good safety, and affordability.

### Luliconazole: redefining standards in topical antifungal therapy

Luliconazole is a novel, optimally micronized imidazole antifungal designed to address the persistent challenges in dermatophytosis management. Its clinical efficacy, rapid action, and patient-friendly regimen make it a superior choice in topical antifungal therapy. It has:

- **Robust antifungal activity:** Demonstrates strong fungicidal action against common dermatophytes, ensuring comprehensive pathogen clearance.
- **Simplified treatment regimen:** Once-daily dosing with short treatment duration (1 week for tinea cruris/corporis, 2 weeks for tinea pedis), improving adherence and compliance.
- **Enhanced skin penetration:** Micronized formulation (<25 microns) achieves deeper tissue penetration for effective eradication of residual fungi.
- **Proven clinical outcomes:** Randomized trials confirm high clinical and mycological cure rates with significantly lower relapse compared to vehicle.
- **Excellent safety profile:** Well-tolerated with minimal localized adverse events (<1%), ensuring high patient acceptability.

Table 1: Efficacy results at 4 weeks post-treatment- interdigital tinea pedis

|                     | Study 1                             |                            | Study 2                             |                            |
|---------------------|-------------------------------------|----------------------------|-------------------------------------|----------------------------|
|                     | LULICONAZOLE Cream, 1% N= 106 n (%) | Vehicle Cream N= 103 n (%) | LULICONAZOLE Cream, 1% N= 107 n (%) | Vehicle Cream N= 107 n (%) |
| Complete Clearance  | 28 (26%)                            | 2 (2%)                     | 15 (14%)                            | 3 (3%)                     |
| Effective Treatment | 51 (48%)                            | 10 (10%)                   | 35 (33%)                            | 16 (15%)                   |
| Clinical Cure       | 31 (29%)                            | 8 (8%)                     | 16 (15%)                            | 4 (4%)                     |
| Mycological Cure    | 66 (62%)                            | 18 (18%)                   | 60 (56%)                            | 29 (27%)                   |

Table 2: Efficacy results at 3 weeks post treatment- tinea cruris

|                     | LULICONAZOLE Cream, 1% N= 165 n (%) | Vehicle Cream N= 91 n (%) |
|---------------------|-------------------------------------|---------------------------|
| Complete Clearance  | 35 (21%)                            | 4 (4%)                    |
| Effective Treatment | 71 (43%)                            | 17 (19%)                  |
| Clinical Cure       | 40 (24%)                            | 6 (7%)                    |
| Mycological Cure    | 129 (78%)                           | 41 (45%)                  |

Ref.: 1. Luliconazole for the treatment of fungal infections: an evidence-based review, Deepshikha Khanna Subhash Bharti: Core Evidence 2014;9. 2. A critical appraisal of once-daily topical luliconazole for the treatment of superficial fungal infections, Aditya K Gupta, Deanne Daigle: Infection and Drug Resistance 2016;9. 3. Epidemiological trends in skin mycoses worldwide, Blanka Havliczkova, Viktor A. Czaika and Markus Friedrich: Mycoses, 51 (Suppl. 4), 2–15; 4. LULICONAZOLE product monograph; 5. A Randomized, Double-blind, Vehicle-controlled Trial of Luliconazole Cream 1% in the Treatment of Interdigital Tinea Pedis, Zoe Diana Draelos, Md, Faad; Tracey C. Mahovic, Dpm; Michael H. Gold, Md, Faad; Lawrence Charles Parish, Md, Md (Hon), Faad; Andrew Korotzer, PhD: J Clin Aesthet Dermatol. 2014.; 6. Efficacy and tolerability of luliconazole cream 1% for dermatophytoses: A Meta-analysis Xiaowei FENG, Jinwei MEI, Kaiwen ZHUANG, Yuping RAN: Journal of Dermatology 2014; 41: 779–782; 7. Comparison of efficacy, safety, and cost-effectiveness of sertaconazole and luliconazole cream in patients with dermatophytosis: A prospective, randomized, open-label study, Ganesh N. Dakhale, Ashish V. Gupta, Jayesh I. Mukhi, Mrunalini V. Kulkarni 2021.; 8. Jarrett M, Jones T, Adelglass J, et al. Efficacy and safety of once-daily luliconazole 1% cream in patients >12 years of age with interdigital tinea pedis: a phase 3, randomized, double-blind, vehicle-controlled study. J Drugs Downloaded by [University of Otago] at 03:27 18 November 2015 17 Dermatol 2014;13(7):838-846.