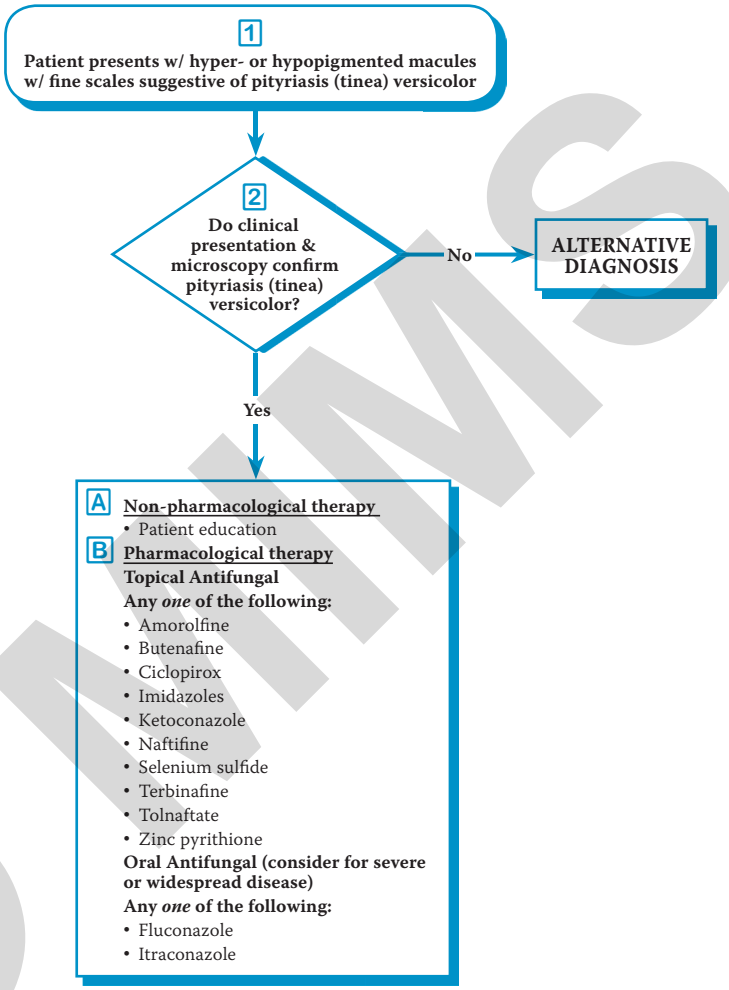
Pityriasis (Tinea) Versicolor (1 of 5)



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1 EVALUATION

Pityriasis (tinea) versicolor is a common, benign, superficial fungal infection localized to the stratum corneum

- Caused by lipophilic yeasts, *Malassezia* species, part of the normal flora of the human skin

Clinical Presentation

- May present as chronic or recurrent infection & may occur in healthy individuals
  - More common in summer than winter months
- Predominates in young adults when the sebaceous glands are most active
- Presents w/ multiple well-demarcated macules or patches & finely scaled plaques w/ hypopigmentation or hyperpigmentation, hence the term "versicolor"
- Tends to be asymptomatic & is mainly a cosmetic concern but pruritus may or may not be present
- Usually found on the upper trunk, chest, back & shoulders, & may extend towards the neck, face & arms
- Lesions do not tan along the normal skin

2 DIAGNOSIS

- Lab testing is not usually needed for the diagnosis
- Consider doing microscopy if:
  - Diagnosis is unclear
  - Infection is unresponsive to the regular topical antifungals
  - Planning oral antifungal treatment

Microscopy

- Potassium hydroxide (KOH) examination of skin scrapings should confirm the diagnosis
  - Scales or debris are examined under light microscope after adding a drop of 10-20% KOH solution
  - Short stubby hyphae & yeast cells will appear as the typical "spaghetti & meatballs" appearance
- Calcofluor may be used but this technique requires utilization of fluorescence microscope
- *Malassezia* species also stain well w/ periodic acid-schiff (PAS) or methenamine silver

Culture

- Unnecessary for routine diagnosis
- Difficult to grow *Malassezia* in standard mycological media

Wood's Light Exam

- May be used to detect subclinical lesions
- However, yellowish to white fluorescence is indicative only in approximately 1/3 of cases

Alternative Diagnosis

- Common disorders that are non-fluorescent under Wood's light: Vitiligo, guttate psoriasis, pityriasis alba
- Other conditions w/ similar appearance to *Tinea versicolor*: Erythrasma, *Pityriasis rosea*, seborrheic dermatitis, secondary syphilis, *Tinea corporis*

Considerations for a Dermatology Referral:

- Negative microscopy & unclear diagnosis
- Extensive & severe infection
- Treatment failure in primary care setting
- Consideration of oral antifungal therapy in children <12 years
- Immunocompromised patients
- Consideration of long-term antifungal prophylaxis

A NON-PHARMACOLOGICAL THERAPY

Patient Education

- Educate patient about the basics of yeast growth
  - *Malassezia* species are lipophilic; advise patient to avoid oils applied to the skin or in the bath
  - It is neither contagious nor due to poor hygiene
  - Avoid use of occlusive clothing, creams, lotions & other cosmetic products

Risk Factors that Promote Pityriasis (Tinea) Versicolor Infection:

- High temperature & high humidity
  - Prominent in tropical & subtropical regions
- Occlusive clothing
- Oily skin or application of oils to skin
- Excessive sweating
- Immunocompromised state, malnutrition & hereditary predisposition
- Oral corticosteroid intake or Cushing's disease

B PHARMACOLOGICAL THERAPY

- Treatment is usually effective but may have to be repeated due to recurrence of infection in susceptible individuals
  - Prophylactic treatment is recommended for patients at risk of recurrence on exposure to sunlight or warm humid conditions
- Skin discoloration may take several weeks to resolve after complete treatment
  - If mycology is negative, persisting pale patches do not necessarily warrant additional treatment
- Topical agents can be very effective & are safer than systemic medications, especially in children

Initial Therapy

- May use Selenium sulfide or Ketoconazole shampoo
- Antifungal cream is advised for small areas of skin involvement
  - Imidazole creams may be used in both children & adults
- If initial therapy fails, confirm adherence to treatment
  - May consider repeat topical treatment before starting systemic therapy
- Other topical agents such as Whitfield ointment, Sulfur-Salicylic acid shampoo, Propylene glycol, & Benzoyl peroxide may be considered but patient should be informed about possible adverse effects prior to use

Topical Antifungals

- Used as initial treatment
- Desirable properties: High efficacy, favorable adverse effects profile, fewest possible daily applications, shortest duration of therapy, low relapse rate & cost-effectiveness
- Ciclopirox
  - Topical application is proven effective when used twice daily for 2 weeks
- Terbinafine
  - Efficacy of topical application is comparable & may even surpass effect of imidazoles against tinea infections
- Selenium sulfide & Zinc pyrithione
  - Proven to be effective & safe; inexpensive for 1st-line therapy
  - May be used as maintenance regimen (apply on the 1st & 3rd day of each month & leave on for 5 minutes before rinsing)
- Imidazoles
  - Highly effective, safe & fairly inexpensive
- Combined steroid/imidazole agents
  - High-potency steroid combination is not indicated for treating *Pityriasis* (tinea) *versicolor* due to the absence of significant inflammation in this condition & the potential of the steroid component to induce atrophy

Systemic Therapy

- Indicated in cases of severe or widespread skin involvement, recurrent infections, & failure of topical therapy
- Oral antifungal agents Itraconazole & Fluconazole are preferred
- Oral Itraconazole is also used for prophylaxis of recurrences

Dosage Guidelines

ANTIFUNGALS (ORAL)

Drug	Dosage	Remarks
Fluconazole	50 mg PO 24 hrly x 2-4 wk **or** 300 mg PO once wkly x 2 wk	**Adverse Reactions** • GI effects (abdominal pain, N/V, diarrhea); CNS effects (headache, insomnia); Other effects (palpitations, pruritus, sweating, fever, elevated serum transaminases) **Special Instructions** • Monitor for symptoms of drug interactions w/ oral hypoglycemics, Rifampicin, oral anticoagulants, Tacrolimus, short-acting benzodiazepines, etc
Itraconazole	100-200 mg PO 24 hrly x 5-7 days	**Adverse Reactions** • GI effects (N/V, diarrhea, abdominal pain), Hepatic effects (elevation of serum transaminases, hepatitis, jaundice if treatment >1 mth); CNS effects (headache, dizziness); Other effects (pruritus, heart failure)
Ketoconazole	200 mg PO 24 hrly x 7-10 days	**Adverse Reactions** • GI effects (N/V, abdominal pain); Dermatological effects (rashes, urticaria, itching); CNS effect (headache) • Fatal liver damage - Risk of liver damage increases if given for >14 days

ANTIFUNGALS (TOPICAL)

Drug	Available Strength	Dosage	Remarks
Allylamines			
Naftifine	1% cream	Apply 12-24 hrly	**Adverse Reactions** • Dermatological effects (burning/ stinging sensation, erythema, pruritus)
Terbinafine	1% soln, cream, gel, spray	Apply 12 hrly x 1-2 wk	**Adverse Reactions** • Dermatological effects (redness, stinging sensation, itching)
Benzylamine			
Butenafine	1% cream	Apply 24 hrly x 2-4 wk	**Adverse Reactions** • Dermatological effects (contact dermatitis, burning/stinging sensation, erythema, irritation, itching)
Imidazoles			
Bifonazole	1% soln, cream	Apply 24 hrly	**Adverse Reactions** • Dermatological effects (occasional local irritation, hypersensitivity reactions, mild burning sensation, erythema, pruritus) **Special Instructions** • Treat for 2-3 wk unless otherwise stated
Clotrimazole	1% soln, lotn, cream, spray, powd	Apply 8-12 hrly	
Econazole	1% cream	Apply 12-24 hrly	

All dosage recommendations are for non-pregnant & non-breastfeeding women, & non-elderly adults w/ normal renal & hepatic function unless otherwise stated.
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Products listed above may not be mentioned in the disease management chart but have been placed here based on indications listed in regional manufacturers' product information.

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Dosage Guidelines

ANTIFUNGALS (TOPICAL) (CONT'D)			
Drug	**Available Strength**	**Dosage**	**Remarks**
Imidazoles (Cont'd)			
Fenticonazole	2% cream, spray	Apply 12-24 hrly	**Adverse Reactions** • Dermatological effects (occasional local irritation, mild burning sensation, erythema, pruritus) **Special Instructions** • Treat for 2-3 wk unless otherwise stated
Isoconazole	1% cream	Apply 24 hrly	
Ketoconazole	2% gel, cream	Apply 12-24 hrly	
	1%, 2% scalp soln 2% shampoo	Apply & rinse off 24 hrly x 5 days or apply & rinse off twice wkly x 2-4 wk **To prevent recurrence:** Apply 24 hrly x 3 days prior to exposure	
Miconazole	2% soln, powd, tinct, cream	Apply 12-24 hrly	
Sertaconazole	2% cream	Apply 12-24 hrly	
Tioconazole	1% cream	Apply 12-24 hrly	
Others			
Amorolfine	0.25%, 0.5% cream	Apply 24 hrly x 2-3 wk	**Adverse Reactions** • Dermatological effects (erythema, pruritus, slight burning sensation)
Ciclopirox (Ciclopiroxolamine, Ciclopirox olamine)	1.5% liqd	Apply & rinse after 3-5 min, 2-3x/wk	**Adverse Reaction** • Dermatological effects (pruritus, redness, burning sensation, pain)
Salicylic acid[1]	3% soap, 4% tinct	Apply 8-12 hrly	**Adverse Reactions** • Dermatological effect (skin irritation)
Selenium sulfide	2.5% lotn, shampoo, susp	Apply & rinse off after 5-10 min 24 hrly x 7 days **To prevent recurrence:** Apply & rinse off after 5-10 min once a mth	**Adverse Reactions** • Dermatological effects (occasionally local irritation, hypersensitivity, mild burning sensation, erythema, pruritus)
Tolnaftate	1% soln, cream, oint	Apply 8-12 hrly x 2-3 wk	**Adverse Reactions** • Dermatological effects (irritation, stinging sensation, pruritus, contact dermatitis)
Zinc Pyrithione	1% liqd	Apply 8-12 hrly x 2-3 wk	**Adverse Reactions** • Dermatological effects (skin irritation, rashes)

[1]Various combinations & strengths of Salicylic acid are available. Specific prescribing information may be found in the latest MIMS.

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Please see the end of this section for the reference list.