

# Fungal Infections

	Fungus	Symptoms	Epidemiology	Predisposing factors
<b>Tinea pedis</b> "athlete's foot"	<i>Trichophyton</i> or <i>epidermophyton</i>	Pruritus	Usually adult males Most common fungal infection	Tight fitting footwear, hyperhidrosis
<b>Tinea cruris</b> (groin)	<i>Trichophyton</i> or <i>epidermophyton</i>	Pruritus, erythematous eruptions	Usually males	Heat, friction, obesity
<b>Tinea corporis</b> "ringworm"	<i>Trichophyton</i> or <i>microsporum</i>	Lesions with prominent edges	Usually children	Warm & humid climates
<b>Tinea versicolor</b> (skin discoloration)	<i>Pityrosporum orbiculare</i>	Hypo- or hyper- pigmented lesions; otherwise asymptomatic		Warm climates
<b>Tinea unguium</b> "onychomycosis"	<i>Systemic Rx treatment only</i>			
<b>Tinea capitis</b> (head)				
<b>Candidiasis</b>	<i>Candida albicans</i>	Erythematous pustules in groin areas	Immunosuppressed patients, diabetics, infants <6 months old	Moist macerations, occluded macerations
<b>Vulvovaginitis</b>	<i>Candida albicans</i>	White vaginal discharge, pruritus, no odor	Women of childbearing age	Tight clothing, meds (OCPs, corticosteroids), diabetes, obesity, pregnancy

## Dermatophyte treatment

- **Good hygiene:** keep clean/dry, nonocclusive footwear, absorbent loose fitting clothing, change clothing/towels frequently, launder in hot water
- **OTC antifungals**

	Description	Treats	Sig	SE	Age
<b>Miconazole 2%</b>	Imidazole derive, fungistatic/fungicidal	Tinea pedis, tinea cruris, tinea corporis	BID, max 4 weeks	Skin irritation, burning, stinging	≥2 y/o
<b>Clotrimazole 1%</b>	Imidazole derive, fungistatic/fungicidal	Tinea pedis, tinea cruris, tinea corporis	BID, max 4 weeks		≥2 y/o
<b>Tolnaftate 1%</b>	Solution > cream	Tinea pedis ( <i>prevents &amp; treats</i> )	BID x 2-6 weeks, w/talc	Stinging	≥2 y/o
<b>Terbinafine 1%</b>	Fungal cell death	Tinea pedis (DOC), tinea cruris, tinea corporis	BID x 1-4 weeks	Irritation, burning, itching, dryness	≥12 y/o
<b>Butenafine 1%</b>	Fungal cell death	Tinea pedis, tinea cruris, tinea unguium	Pedis: BID x 1wk or QD x 4wks Cruris, unguium: QD x 2wks		≥12 y/o

- **Counseling points**
  - Apply topicals BID for 3-4 weeks
  - Contact MD if: >4 weeks, diabetes, infected toenails, pain, foul smell, inflammation, swelling

## Tinea versicolor

- **OTC antifungal creams:** clotrimazole, miconazole, tolnaftate
  - Apply QD x 14 days to affected area
- **Selenium sulfide (Selsan Blue)**
  - Lather 5 mins then rinse
  - QD x 2 weeks then taper use
  - SE: hair/skin discoloration

## Vulvovaginal candidiasis

- **Nonpharmacological:** ↓sucrose, ↓refined carbs, ↑yogurt, d/c meds that increase susceptibility
- **Pharmacological:** butoconazole, clotrimazole, miconazole, ticonazole
- **Counseling points:** 1<sup>st</sup> episode → see MD (r/o STD); only use OTC products if previously diagnosed
- **Directions for use**
  - Start treatment at night before bed
  - Use pad because of leakage
  - Complete full course of therapy on consecutive days (even during menstrual flow)
  - Avoid sexual contact
- **Contact MD:** no improvement after 3 days, or if symptoms still present after completion of therapy
- **Refer to MD:**
  - Symptoms: fever, abdominal/back pain, rash, odorous discharge
  - Pregnant or younger than 12 y/o
  - Symptoms that return within 2 months
- **Treatment in pregnancy:** self-treatment not appropriate
  - Butoconazole, clotrimazole, miconazole
  - Withhold treatment during 1<sup>st</sup> trimester if possible
  - Breastfeeding: any product ok
- **Alternative agents:** oral lactobacillus, gentian violet dye, yogurt po or topical, boric acid gelatin capsule intravaginally