

# ANTIMICROBIALS

## ANTIFUNGALS

Ringworm:

*Microsporum* spp,

*Trichophyton* spp

*Candida*

Systemic fungal infections:

*Aspergillus* spp



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## ANTIFUNGALS

### Griseofulvin

#### GRISEOFULVIN

(*Penicillium griseofulvum*)

Microtubular toxin - active uptake by fungi

- inhibits fungi (slow acting fungistatic)
- keratin precursor/stratum corneum



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GRISEOFULVIN (microsize, ultramicrosize)

Absorption: improved with fatty foods

Distribution: keratinised tissues, fat, liver, skeletal muscle

Liver metabolism: inactivated

induces hepatic mixed function oxidase

Excretion: urine





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### GRISEOFULVIN

#### Contraindications:

- liver disease
- hypersensitivity
- pregnancy
- cats with FIV



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### GRISEOFULVIN

#### Adverse Effects:

- teratogenic
- diarrhoea, depression, anorexia, fever
- anaemia, leukopaenia, neutropenia
- hepatotoxicity (uncommon)
- neurological effects in kittens - ataxia



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## ANTIFUNGALS

### AMPHOTERICIN B

- Polyene antibiotic

Binds to ergosterol

- fungal cell membrane





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## ANTIFUNGALS

### AMPHOTERICIN B - USES:

- Systemic infections
  - Aspergillosis, etc
- Yeast infections
  - candidia



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### AMPHOTERICIN B

- Not absorbed orally
- IV in 5% dextrose
- Poor distribution to CNS, eye, muscle or bone
- Elimination - slow binds to lipids





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### AMPHOTERICIN B - Adverse Effects

- Renal toxicity

Monitor renal function

Note: Newer formulations with liposomes or lipid complexes reduce nephrotoxicity



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### AMPHOTERICIN B - Side Effects

- Fever
- Anorexia
- Nausea



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### AZOLES

- MICONAZOLE
- KETOCONAZOLE
- CLOTRIMAZOLE
- ITRACONAZOLE
- FLUCONAZOLE
- ENILCONAZOLE





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### AZOLES

- Inhibit ergosterol synthesis
- Broad spectrum
- Dose dependent - static or cidal

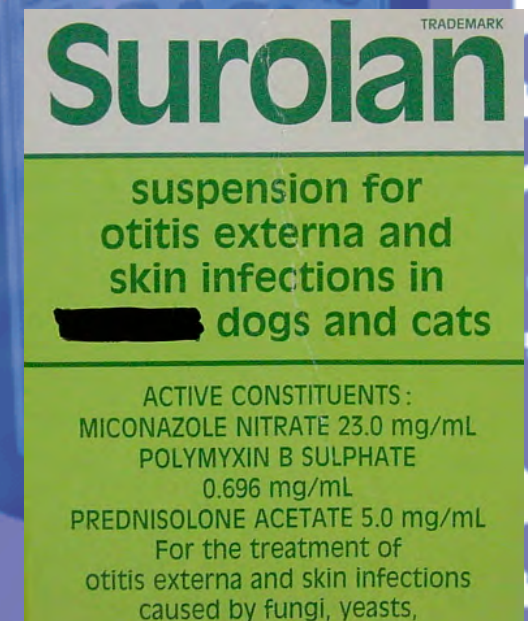


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## ANTIFUNGALS

### AZOLES - USES

- systemic fungal infections
  - nasal aspergillosis
- yeast infections
- hyperadrenalcorticism

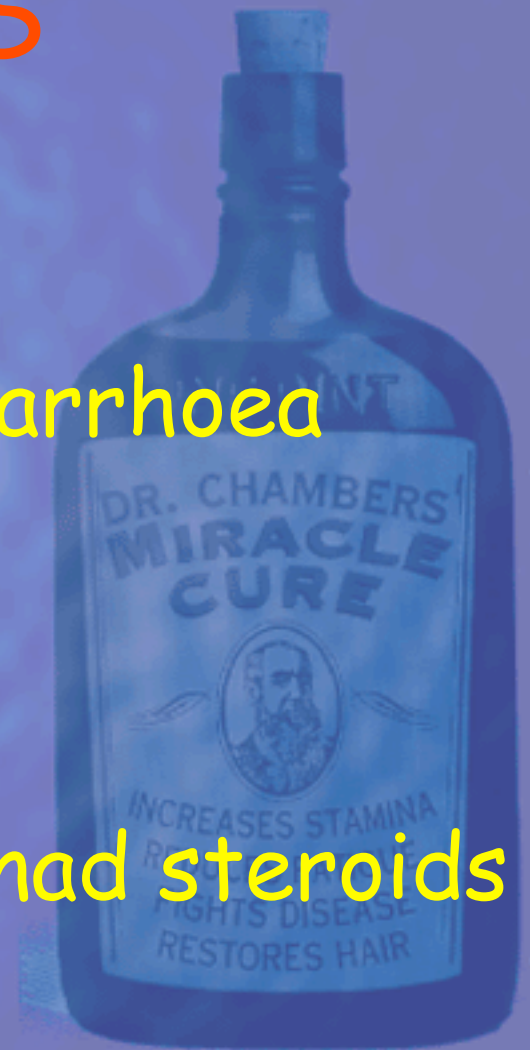


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### AZOLES - SIDE EFFECTS

- anorexia, vomiting and/or diarrhoea
- depression
- hepatotoxicity
- suppression of adrenal & gonad steroids





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### SUMMARY

#### Griseofulvin

Fungistatic, ringworm, slow action,  
keratin deposition, teratogenic, fatty  
meals ↑ absorption

Polyenes (amphotericin B) – nephrotoxic

Azoles (ketoconazole) – systemic mycoses

